



TO CORRESPONDENTS.—Communications for the Editor should be addressed "To the Editor of the CHEMIST AND DRUGGIST," 42a, Cannon Street, and if intended for insertion, should be written on one side of the paper only, and authenticated by the real name and address of the writers, not necessarily for publication, but as a guarantee of good faith.

Advertisements, Subscriptions, Orders for Copies, and all communications to be addressed to "THE PUBLISHER."

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All Advertisements intended for insertion in the current Month must be sent to THE PUBLISHER on or before the 12th, except Employers' and Assistants' Advertisements, which can be received up to 10 a.m. on the morning previous to publication.

Editorial Notes.

IN consequence of the numerous demands for our last number, which contained a copy of the Pharmacy Act 1868, we have reprinted the Act as a supplement to the present issue. It is important for all those who are engaged or intending to engage in the business of a chemist and druggist to observe:—

1. That all existing chemists and druggists who desire to be registered without the payment of a fee must, on or before the 31st of December, 1868, make application. They can obtain the necessary forms of certificate from the Registrar, ELIAS BREMIDGE, 17, Bloomsbury-square, London.

2. That any person who shall produce to the Registrar, on or before the 31st of December, 1868, certificates, according to a form that will be furnished by the said Registrar, showing that at the time of the passing of the Act (July 31st, 1868), he was of full age, and had been actually engaged and employed in the dispensing and compounding of prescriptions as an assistant to a Pharmaceutical Chemist, or chemist and druggist, for a period of not less than three years, may, on passing a *modified examination*, a synopsis of which may be obtained from the Registrar, be registered as a Chemist and Druggist.

In order to secure this advantage, it is imperative that application should be made within the time specified; but it does not necessarily follow that the applicant should submit to examination immediately, the right being secured by filing the required certificate; a future opportunity, convenient to the assistant, would serve for completing the registration.

As the expense attending the registration of chemists and druggists falls upon the Pharmaceutical Society we trust that our readers will show their appreciation of the services rendered by the Society by sending donations to the Benevolent Fund, which is now applicable to the relief of all distressed members of the trade and their widows and orphans.

In our "Notes and Queries" many questions respecting the Act are answered.

Our homœopathic friends may be reminded that the folly of locking the stable door when the steed is stolen is prover-

bial. In the early part of last week the homœopathic chemists and medical practitioners met to discuss the Pharmacy Act, which became law on the 31st of July, and the result of their deliberations was the appointment of a committee, authorised to take such steps as might be necessary to preserve the rights of homœopathic chemists. Had the leaders of the homœopathic body been influenced by even infinitesimal doses of common sense, we should have heard of their objections to the prescribed regulations months ago, when the whole scheme of pharmaceutical legislation was under discussion. Then their claims and protestations might have induced Parliament to make due allowances for the especial character of the calling of a homœopathic chemist. Now they can hardly hope to re-open a subject which has been disposed of by the passing of an Act. Month by month we have brought before our subscribers—among whom we can count all the leading homœopathic chemist of the kingdom—full details of the movement which has led to the Pharmacy Act, 1868. Yet the homœopathic chemists have only just discovered that they are seriously affected by the Act. If they now find themselves in a disadvantageous position they can blame nobody outside their own circle. In both Houses of Parliament there are many homœopaths who would most willingly have brought forward any reasonable suggestions for adapting the Act to their requirements. We trust that the homœopathic chemists may get over their difficulty, but we contend that this difficulty ought never to have arisen.

We learn with much pleasure that a new edition of *Fownes' Manual of Chemistry* is in the press, and that the task of adapting this favourite text-book to the present state of chemical science has been committed to Dr. H. BENCE JONES, F.R.S., and Mr. HENRY WATTS, F.R.S.

THE OPENING OF THE PHARMACEUTICAL SESSION.

BLOOMSBURY SQUARE.

(1868—69.)

ON Wednesday night, October 7th, at 8-30 p.m., the prizes will be distributed to the successful competitors by the President, Mr. G. W. Sandford. We are informed on authority that, at least, as far as Chemistry is concerned, never were rewards better merited. In the course of the evening, an inaugural address will be delivered to the school by Mr. H. B. Brady, of Newcastle. Ladies will be admitted. We congratulate the Society on having, though late, followed in the wake of other learned associations. We hold firmly that it would be a dark day when our scientific meetings should slide into tea and toast, but there are occasions (and this is one of them) when home influences should not be neglected.

There is no student worth his salt who would not attach a higher value to a smile and kindly greeting from those he loved than to the best eulogium that might be officially pronounced.

It rests with pharmacutists to render the experiment a success or failure; let them demonstrate by the presence of their fair companions that the idea has not been utopian. Surely those who, of late, have sunk their personal differences, in order to advance the general good, will not be wanting, when required, to adduce a practical illustration that sweet faces and approving gentle eyes afford more encouragement than a sparse audience, and empty benches.

NORWICH.

THE Fifth Session of the British Pharmaceutical Conference has just been brought to a close. The President, Mr. Daniel Hanbury, adopting the practice which obtains in other learned societies, gave, in his opening address, a summary of recent investigations bearing on the interests of the Association.

He scarcely did justice to himself when he apologised for presenting rather results obtained by others than novel experiments of his own. It is of the deepest importance that our members should be made acquainted with the details of modern progress, and the account rendered was a convincing proof that the speaker was master of the subject he had undertaken. With respect to *Materia Medica*, we imagine that since the death of Guibourt, Mr. Hanbury is one of its ablest living exponents. That he contributed a faithful *resumé* of the labours of Dr. Harley, of the micro-chemical researches of Dr. Guy and Mr. Waddington, and of late American deliberations, the Norwich chemists may be grateful; that he should tell us about the cultivation of cinchona, jalap, rhubarb, and calumba, and should exhibit a famous specimen of the last, will astonish no one. We have to thank him for his remarks on Acclimatisation, specially when he pointed out that the best of theories should be regulated by common sense:—

"But though I am thus advocating the culture of certain medicinal plants, there is a vastly larger number, the culture of which, with a view to profit, it would, I firmly believe, be a delusion to attempt. Drugs already cheap, abundant, good; drugs in small demand; drugs which are comparatively unessential, or well represented by others; those that are only procurable from plants or trees which arrive but slowly at maturity; those which, like sarsaparilla, are only found in regions uninhabitable to civilised man; these, I say, we can afford to let remain products of the forest, some of them to disappear before the axe of the colonist, a few to hold their places in the interstices of cultivation, as the companions of more important and useful plants."

Mr. Hanbury detests and carefully avoids embroidery of all description; not a single syllable is added for effect; his style is as clear and characteristic as the handwriting in which it is transferred to manuscript. Personally, we are glad when he is thrown into immediate contact with others of less scientific attainment than himself, for there are some who regret that there should not be a ray more sunshine in his light. At the commemorative dinner, he ran into a vein of true pleasantry, when relating his experiences of Dundee. Let us also make honourable mention of Mr. J. D. Smith, for his brief speech on that occasion, in which he contrasted the privileges of the present day with the few he had himself enjoyed; he put such of us to shame who have raised comparatively so small capital out of our larger opportunities.

The papers read before the Conference were rather shorter than usual, and in many cases, were simply notes. But the character of the Session was thoroughly sustained by two admirable communications from Mr. W. W. Stoddart, of Bristol, the first on Honey: its Formation and Changes; the second on Lemon Juice and its Adulterations. Both of these essays have materially enhanced his credit as an investigator and a pharmacologist.

Mr. R. W. Giles sent a letter on the Relation of Remuneration to Pharmaceutical Responsibility. The same subject has been treated with extreme ability in the columns of a former number of the CHEMIST AND DRUGGIST; remarks bearing on the question in a more condensed form will be found in a recent leader of the *Pharmaceutical Journal*. These

two writers, travelling by different routes, come to the identical conclusion as our Clifton correspondent.

The result may be stated thus: The druggist, not the public, is to blame for a diluted tariff. Secondly, for a man to ignore his previous training, its expense, and the reasonable advantage it should offer; to reap nothing from those mental qualifications which form part of his stock and fixtures, but, on the contrary, to vend dangerous compounds, the preparation of which demands time and skill, at no higher standard of remuneration than a grocer would claim for figs, is a proceeding worthy of Colney Hatch.

The rest of the transactions call for no special notice, but it would be an injustice to omit our warmest acknowledgment to Mr. Carteighe for his exposition of the provisions of the Amended Act of Pharmacy; his patience seemed inexhaustible, so did the discussion. We suspect that there are even members of the Council to whom his elucidations were of use.

All things must end—this pleasant gathering is now numbered with the past. To many a hardworking pharmacist it was a week of happiness, of bright social intercourse and of much instruction. And while, with a tinge of sadness, we left behind the ancient city and its venerable associations, we were gladdened by the thought of friendships gained which will not quickly die, and by the hope that some of the good citizens of Norwich were sorry when the time came to say farewell to the British Pharmaceutical Conference.

BRITISH PHARMACEUTICAL
CONFERENCE.

FIFTH ANNUAL MEETING.—NORWICH.

OFFICERS.

President:—D. HANBURY, F.R.S., F.L.S., etc., London.

Vice-Presidents who have filled the office of President:—H. DEANE, F.L.S., Clapham Common; Professor BENTLEY, F.L.S., M.R.C.S., London.

Vice-Presidents:—W. W. STODDART, F.G.S., Bristol; J. INCE, F.L.S., F.C.S., etc., London; R. FITCH, F.G.S., Norwich; J. R. YOUNG, Edinburgh.

Treasurer:—H. B. BRADY, F.L.S., F.C.S., Newcastle-on-Tyne.

General Secretaries:—Professor ATTFIELD, Ph.D., F.C.S., London; R. REYNOLDS, F.C.S., Leeds.

Local Secretary:—F. SUTTON, F.C.S., Norwich.

Committee:—E. ARNOLD, F.C.S., Norwich; J. H. ATHERTON, F.C.S., Nottingham; J. C. BROUGH, F.C.S., Kensington; A. J. CALEY, Norwich; M. CARTEIGHE, F.C.S., London; T. B. GROVES, F.C.S., Weymouth; J. MACKAY, Edinburgh; D. RUSSELL, Dundee; G. F. SCHACHT, Clifton.

NORWICH LOCAL COMMITTEE:—

E. ARNOLD, F.C.S., W. S. BIRD, A. J. CALEY, W. COORE, J. CORSEY, C. CUBITT, R. FITCH, F.G.S., W. J. GARDINER, J. O. PEGGS, R. C. PITTS, R. P. PITTS, J. ROBINSON, G. ROW, W. SEARBY, F. D. SMITH, J. D. SMITH, R. B. SMITH, A. STOCKINGS, F. SUTTON, F.C.S., H. THOMPSON, G. P. WATSON, J. WATSON.

THE Fifth Annual Meeting of the British Pharmaceutical Conference was opened on the morning of Tuesday, the 18th of August, under the presidency of a gentleman whose name is indelibly stamped upon the records of pharmaceutical progress in Great Britain. The place of meeting was the Lecture Hall, St. Andrew's, Norwich, in which building two spacious rooms had been secured by the local committee for the use of the Conference. The sittings were held in the inner room, which had been furnished in a way to insure the comfort of the assembled members, whilst the adjoining room was devoted to the exhibition of objects relating to Pharmacy.

The Liverpool, Leeds and Bath Chemists' Associations, and the chemists of Nottingham were represented respectively by Mr. Abraham, Mr. Reynolds, Mr. King and Mr. Atherton. Communications, approving the purpose of the Conference, were received from the honorary secretaries of the Chemists' Associations of Bath, Dundee, Glasgow, Sheffield and York, and the Chemists' Assistants' Associations of London, Bristol and Clifton. The attendance of members was good. At the different sittings we noticed the following gentlemen, besides others whose names were unknown to us:—Professor Attfield, Messrs. D. Hanbury, Deane, H. S. Evans, Ince, Carteghe, Bremridge, Brough, Gale, Greenish, Grainger, Watts, Francis, W. L. Scott, Watson, Readwin, Wootton and Coleman, of London; Dr. Parkinson, of Bradford; Mr. Savage, of Brighton; Mr. Blain, of Bolton; Mr. Clayton, of Birmingham; Mr. Stoddard, of Bristol; Mr. Schacht, of Clifton; Messrs. Gostling and Francis, jun., of Diss; Mr. Lenton, of East Dereham; Messrs. Kinnimont and Stanford, of Glasgow; Mr. Muskett, of Harleston; Mr. Bell, of Hull; Mr. Chifney, of Mildenhall; Mr. Brady, of Newcastle-on-Tyne; Mr. Atherton, of Nottingham; Mr. Baker, of Swaffham; Mr. Guyer, of Torquay; Mr. Groves, of Weymouth; Messrs. Arnold, Bridgman, Butler, Caley, Corder, Cossey, G. Cubitt, C. Cubitt, Fitch, Gardiner, Peggs, R. C. Pitts, Row, Searby, J. D. Smith, R. B. Smith, F. D. Smith, Sutton, Thompson and J. Watson, of Norwich.

The proceedings commenced with the election of new members. [The number of gentlemen elected during the meeting was 122.]

Apologies for non-attendance were presented from Mr. Sandford, Professor Bentley, Mr. Bruce Warren, Mr. J. C. Braithwaite and Mr. Heathfield, London; Mr. Mackay and Mr. Young, Edinburgh; Mr. Barnitt, Bath; Mr. Sumner, Liverpool; Mr. Giles, Clifton, and Mr. Yewdall, Leeds.

Mr. H. S. EVANS, Vice-President of the Pharmaceutical Society, expressed on behalf of Mr. Sandford, the President, his regret that he was unavoidably prevented from leaving London at that time. Mr. SUTTON, as Local Secretary of the Conference, read extracts from a letter sent by Mr. Sandford, to the following effect:—

"I have always regarded the Conference as an admirable offshoot of the Pharmaceutical Society, perhaps I might more properly call it an 'outburst,' for I do not claim any credit for the Society in establishing the Conference, although I consider the relationship between them as very intimate, I think the early promoters of the Conference hailed from Bloomsbury-square, and imbibed much of their love of Pharmacy, elevated into a science in England by the Pharmaceutical Society, and a good deal of their spirit of union therefrom. I should like to see the Act of Parliament, we have just obtained, carried into effect, not simply by our being a body of men held together by registration, but also an association of individuals acting towards each other, and the public, in the spirit of that admirable paper read by my friend Ince at Nottingham, on 'Pharmaceutical Ethics.'"

Professor ATTFIELD then read the following:—

"REPORT OF THE EXECUTIVE COMMITTEE.

"The President and Committee again congratulate the members on the increasing strength and usefulness of the Conference. Since the last annual meeting the ranks of our Association have been swelled by the addition of 121 names, 39 of which have been contributed by Norwich and the neighbouring district. Six gentlemen have withdrawn, the total number of members now being 562.

"In connection with the meeting for 1867, it is gratifying to the Committee to be able to record that the unanimity with which the Dundee chemists welcomed the Conference did not cease with its visit, but formed a basis on which has been founded a local society for mutual advantage and improvement. Papers have been read, and trade matters discussed, at its meetings, and other occasions of good fellowship observed. This is not the first time that the annual meeting of the Conference has formed an opportunity for a public expression of brotherly feeling and goodwill, and a development of pharmaceutical science, on the part of the chemists of a town such as should tend to their permanent elevation as well as the advancement of pharmacy generally.

"In connection with the present meeting the Committee has endeavoured, by the issue of an extended list of subjects suggested for investigation, by mutual help, and by aid of the gentlemen who have independently worked on various questions, to provide sufficient papers to occupy, and not more than occupy the two days preceding the sectional meetings of the British Association. The exhibition of new chemicals, drugs, apparatus, and other things connected with Pharmacy, which has been organized entirely by the Norwich Local Committee, will form an interesting feature of the gathering throughout the whole week.

"Every well-wisher of Pharmacy, and indeed every one interested in the public welfare, must rejoice at the success which has recently crowned long years of effort in the direction of pharmaceutical legislation. The amount of skill and ability with which the pharmaceutical chemist, or chemist and druggist of the future, shall discharge his duties will depend now on the efficiency of a Board of Examiners, appointed indirectly by chemists and druggists themselves. The best interests of prescribers, dispensers and patients, can alone be secured by demanding, sooner or later, a high standard of educational qualification on the part of the candidates who may present themselves for examination. It is to be hoped, therefore, that every individual follower of our common calling will take a sufficiently wide, elevated and dignified view of the present position of affairs as shall result in the material extension and increase of power of that Society into the hands of whose Council the choice of Examiners, and the general conduct of Pharmacy is now placed by Act of Parliament."

Mr. BRADY, Treasurer, presented the following Statement of Accounts:—

The Treasurer in Account with the British Pharmaceutical Conference, 1867-68.

Dr.	£	s.	d.	Cr.	£	s.	d.
To Cash in hand, Aug. '67	5	6	7	By General Printing—J. E. Taylor & Co.	2	5	0
" Sale of Proceedings ..	0	5	0	" General Printing—J. Bell	5	2	6
" 334 Subscriptions, viz.,							7 7 6
7 for 1865-66				" Cost of Proceedings—J. E. Taylor & Co.	17	10	6
41 for 1866-67				" Cost of Proceedings—W. West ..	3	18	0
243 for 1867-68							21 8 6
41 for 1868-69				" Expenses connected with the Dundee Meeting	6	15	2
1 for 1869-70				" Stationery	1	0	2
1 for 1870-71				" Postage	13	4	4
Total 334.....	83	10	0	" Carriage of Parcels ..	1	5	2
	89	1	7	" Directing Circulars ..	2	4	2
				" Newspapers for Reports	0	1	0
				" Balance in hand.....	35	15	7
							89 1 7

Examined and found correct,
WILLIAM LAIRD,
G. B. MACKAY, } Auditors.
DUNDEE, August 5th, 1868.

1868.	£	s.	d.
August. Balance in hand	35	15	7
Subscriptions due (340 in all)—			
4 for 1864-5 still unpaid	1	0	0
17 for 1865-6 "	4	5	0
109 for 1866-7 "	27	5	0
210 for 1867-8 "	52	10	0

On the motion of Mr. W. SEARBY (Norwich), seconded by Mr. W. J. GARDINER (Norwich), the Report and Statement of Accounts were adopted.

The PRESIDENT then delivered the following address:—

OPENING ADDRESS.

BY DANIEL HANBURY, F.R.S.*

Gentlemen,—In accordance with the arrangement made last year at Dundee, we have assembled to hold at Norwich, as usual under the shadow of the British Association, the Fifth Anniversary Meeting of the British Pharmaceutical Conference.

* Revised for publication by the author.

Instituted at Newcastle-on-Tyne in the year 1863, and commencing its labours on a humble and unpretending scale, our Society has year by year increased in numbers, while the proceedings of its annual meetings, regularly held now for five years, have by no means retrograded in interest and importance.

Thus congratulating you on the successful progress and present well-being of our Society, as evidenced by its list of members, now numbering over 550, as well as by the variety of interesting communications presented at our meetings, let me remark that we must not relax our efforts in promoting that spirit of study and research which so highly contribute to advance the dignity of the profession of pharmacy. The meetings of the British Pharmaceutical Conference are not, indeed, to be precisely measured by the importance of the papers brought before them; they have another object besides the discussion of scientific subjects, namely, that of binding together with a cord of union the pharmacutists of this land, of providing an opportunity for discussing in various parts of the country subjects of common interest, and generally of promoting by personal communication that good understanding and mutual appreciation which so greatly contribute to render our course in life happy, useful, and harmonious.

The advantages of such associations have long been recognized on the Continent. In Germany, France, and Switzerland, we find that the pharmacutists of some large district meet annually by mutual accord to discuss subjects bearing on the well-being of their profession. In the United States, where the conditions under which pharmacy is practised resemble more closely those which prevail in our own country, there exists, as most of us well know, a flourishing association for the promotion of science in connection with pharmacy, as well as for the discussion of subjects bearing on pharmacy as a trade. This is the American Pharmaceutical Association, the fifteenth annual meeting of which was held in New York in the autumn of last year. Let us take a glimpse of the proceedings of our brethren on the other side of the Atlantic when congregated in the University Building, New York, on the 10th, 11th, 12th, and 13th of September, 1867. At the opening session, delegates appointed by the Colleges of Pharmacy of Massachusetts, New York, Philadelphia, Maryland, Cincinnati, and Chicago, by the Pharmaceutical Associations of Maine and of the District of Columbia, and by the Alumni Association of the Philadelphia College of Pharmacy, presented their credentials, which after due examination were reported satisfactory. Then we find a resolution passed to this effect—that “the Professors of the College of Pharmacy, and of the medical colleges of this city, also the medical profession in general, be invited to seats in the present meeting.” This has struck me as a particularly wise and liberal proceeding, showing that it is not narrow trade interests that the Association has met to discuss, but subjects which, though of special interest to a small section of the community, really bear on the welfare of all, and which claim moreover the serious notice of those who are custodians of the public health.

A list of new members is next given, and then follow reports of the Executive Committee, of the Committee on the Progress of Pharmacy, of that on the Drug Market, of those on Scientific Queries and on Internal Revenue Law, concluding with a report of the delegates to the International Pharmaceutical Congress, held in Paris last August.

Various books and pamphlets were also laid before the meeting, the first-mentioned being the Proceedings of the British Pharmaceutical Conference held at Nottingham. An

inaugural address from the President, Mr. Stearns, was, in his absence through ill-health, read by Professor Parrish. The reports presented at a previous sitting were next taken up, and necessarily occupied a considerable time. That on Scientific Queries brought forward, the various papers on scientific subjects which had been offered to the Association, among which the following may be mentioned:—

A paper on the use of Benzoin in Ointments, by Mr. Doliber.

On the Tartrates of Potash and Tartaric Acid from American Tartar, on Quicksilver in North Carolina, and on *Matu*, a leaf used by Mexicans to flavour Tobacco, on American Opium, the analysis of which showed it to contain over 10 per cent. of morphia, all by Mr. E. S. Wayne, of Cincinnati.

On the inner coat of the gizzard of the South American Ostrich, as a remedy for dyspepsia. (I hope we shall not be called upon to provide this new medicine.)

Mr. William Saunders, of London, Canada West, contributed a paper on the relative value of the rhizoma and rootlets of *Podophyllum peltatum*, proving that the rootlets afford most resin.

This will suffice to show the useful and practical character of the work done by our transatlantic brethren; now, gentlemen, let us take a brief review of some of the contributions to pharmaceutical knowledge made in our country since we last met.

The detection and exact recognition of the vegetable alkaloids is one of the most important and delicate operations that it can fall to the lot of the chemist to attempt, and any addition to the tests already in use merits attention. Dr. Guy may, therefore, well deserve our thanks for the exactitude and unwearied patience with which he has performed an immense number of experiments on the sublimation of the alkaloids, a process first brought to the attention of chemists in 1864, by Dr. Helwig, of Mayence. Dr. Guy has arrived at the conclusion that the method of subliming substances in minute quantities on flat surfaces of glass, in order to their complete examination by the microscope, a method first recommended for arsenious acid and corrosive sublimate, may be advantageously extended to the alkaloids and analogous active principles—that characteristic results are readily afforded with very minute quantities, such as a thousandth of a grain of strychnine, or even less—that the results obtained by sublimation in the case of the alkaloids and analogous active principles are not more subject to failure than those of other tests, in fact, that several of the reactions are remarkable for delicacy, constancy, and characteristic appearances.

Closely connected with this subject is the question of the temperature which must be reached in order that any particular alkaloid may assume a gaseous form, or, in other words, that it may sublime. Dr. Guy, impressed with the unsatisfactory statements made in toxicological works, and the somewhat rough modes of procedure adopted in order to test the volatility of such bodies, has applied himself to devise a more exact method, to the results of which communicated in the *Pharmaceutical Journal* of February last, I must refer you.

Another excellent observer, who has also studied this department of chemistry, is Mr. H. J. Waddington, whose paper on micro-sublimation elicited, when read, some interesting remarks from Dr. Guy, Dr. Attfield, and others. In common with Dr. Guy, Mr. Waddington had experienced the defects of the common method of subliming in a glass tube over a naked flame substances so easily decomposed as vegetable alkaloids, a method which

has given rise to such statements as that a body is *partly sublimed and partly decomposed*, which seem to imply that the substance exposed to heat is not homogeneous, but that one part of it is volatile without decomposition, while the other is not. But no substance, as Mr. Waddington remarked, can sublime and decompose at the same temperature; partial sublimation and partial decomposition must be owing to a mechanical defect in the arrangement for heating the substance. That the subliming and decomposing points of many substances approximate very closely is most probable, for when the heat has been most carefully applied, it has often happened that a sublimate has been contaminated with coloured matter which could only have arisen from decomposition. Dr. Attfield argued that it was almost as impossible to limit the subliming point of a solid as the evaporating point of a liquid, and instanced iodine, camphor, naphthaline, mercury, and ice as solids, volatile at all temperatures. But are strychnia and morphia analogous with these, and is there any evidence that these latter are at all volatile, except at an elevated temperature?

I must pass from this interesting subject, noticing only that we have further to thank Mr. Waddington for remarks on the preparation of microscopic crystals, a communication of great interest to any one desirous of pursuing the subject, the practical value of which has been illustrated by our colleagues Messrs. Stoddart, Deane, and Brady.

The analysis of potable water, more especially with a view to the determination of the organic matter it contains, continues to attract the attention of chemists both in England and on the Continent, and the various methods proposed for arriving at results more accurate than those hitherto attained, have been vigorously discussed. Dr. Frankland's paper, on water analysis, in the *Pharmaceutical Journal* for February last, gives some idea of the elaborate pains required for arriving at satisfactory results.

Let me here notice the extremely interesting account of a medicinal spring in Jamaica, given by our friend and colleague Dr. Attfield. The water of this spring is remarkable, not only for the excessive amount of saline matter it contains, but likewise from this saline matter consisting exclusively of the chlorides of calcium, sodium, and ammonium, the first named being in the proportion of 1,510 grains in the imperial gallon. Assuming the flow of the spring to be as stated, about 70 gallons per hour (certainly no vast quantity), the amount of chloride of calcium outpoured in the course of 24 hours would be equivalent to 363 pounds. No other example is known of water so rich in this mineral constituent.

Apropos to this subject, I must draw your attention for a moment to the volume on the table,—an essay on water, in which that ancient element is scrutinized and considered in every possible way. This fine work, a quarto of 400 pages, emanates from a Brazilian, a member by examination of the Pharmaceutical Society of Great Britain, Senhor Antonio Alves Ferreira, of Rio de Janeiro.

Experiments on the therapeutic action of drugs, to be of real value must be carried on with so many precautions, so much patience, and attention to so many collateral circumstances, that practitioners of medicine as well as pharmacutists may well be indebted for information such as that communicated by Dr. John Harley in his Lectures on the action and uses of Conium, Belladonna, and Hyoscyamus. Dr. Harley's experiments on Conium seem to me a model of careful therapeutic research. The results are of great interest, proving conclusively that the drug is an active medicinal agent, but one of which the pharmaceutical preparations have been so defective and uncertain that the efficacy of the medicine had come to be regarded as very

questionable. The dried leaf of hemlock was found by Dr. Harley to be of little if any value; the tincture whether made from leaf or fruit, to be inert (except from its alcohol), and the extract to be so weak in conia, that it required to be given in doses of 30 to 40 grains to produce the least effect. The only preparation which retains the active principle of the drug, in sufficient quantity, is the *preserved juice*, which given in the dose of from 2 to 8 drachms, is a safe and valuable medicine. As to Belladonna, Dr. Harley considers that its medicinal powers are wholly resident in atropine, a substance which I, as a druggist, may remark is far more satisfactory to handle than a liquid like conia, or a highly deliquescent solid such as hyoscyamine. Dr. Harley finds that its activity is destroyed by fixed caustic alkalies,—an observation previously made, as you will remember, by Dr. Garrod, who also pointed out the impropriety of combining Hyoscyamus with a caustic alkaline solution, such as *Liquor potassæ*. The action of an alkali on atropine is not instantaneous, in fact the power of the atropine is not apparently diminished when freshly mixed. If, as is probable, the same observation holds good for Hyoscyamus, it allows of that drug being administered with potash, provided the two are mixed at the moment of taking the dose, or perhaps it would be still better to give them separately.

The analysis of Jalap was the subject of a communication made at our last meeting, and it is one which seems still deserving attention. Messrs. T. and H. Smith assert that, in many trials, they have never obtained of the resin more than 15 per cent., while our colleague, Mr. Umney, has recently obtained 21.5 per cent. from the Vera Cruz drug. Dr. Squibb considers that powdered Jalap, which does not yield over 12 per cent. of dry resin, should be rejected as unfit for use, an opinion I cannot endorse, for I have found Vera Cruz Jalap of undoubted goodness which yielded but 11 per cent., and a similar result was obtained by my friend Mr. Broughton.

The transition from Jalap to Rhubarb is natural, at least in the popular mind; and I notice this latter drug in order to remind you of the interesting account of the cultivation of rhubarb in England, recently published by Mr. Usher in the *Journal of the Society of Arts*. Although the directions of the Pharmacopœia preclude the employment in an English pharmacy of any other rhubarb than that of China (and most of us are practically unacquainted with any other), yet no such limitation extends to other countries and that British Rhubarb is appreciated *somewhere* is proved by the fact alleged by Mr. Usher, that the demand is greater than the supply. The disappearance from commerce of the old-fashioned Russian Rhubarb, a drug that was of uniform excellence, has been followed by a remarkable alteration in that shipped from China. For the last two or three years this latter has been singularly bad in quality, whole chests affording only a few pounds of the drug in a sound condition. As the price has also very much advanced, it is not surprising that British Rhubarb, which is at least well prepared and of good appearance, should find numerous purchasers. The increased facilities for traversing the interior provinces of China, may soon, I hope, afford an opportunity of reaching some of the districts in which rhubarb is produced, and of bringing thence living plants of this most valuable drug.

Dr. Flückiger, of Bern, one of the most careful and profound pharmacologists living, and who I am happy to tell you is a contributor of some papers to our Conference, has lately pointed out that a second sort of Kamala, differing essentially from that derived from *Rottlera tinctoria*, Roxb., has been imported into commerce. This new form of the drug appears as a dark chocolate-coloured powder, which is

seen to consist of grains of larger size than those of ordinary kamala, and of very different structure. The new drug is almost entirely free from sand, which has not been the case with most of that hitherto found in the market. Yet freedom from earthy admixture is a condition in which it is possible to obtain kamulu, even as a commercial article. Some quantity of it, recently shipped from India, was so pure that it afforded upon incineration only 1.37 per cent. of ash.

The introduction of the Cinchona into India, is an enterprise the success of which ought to be gratifying to every Englishman, not indeed so much as a source of commercial wealth to our country, as because it will, we may hope, perpetuate to the world a supply of those precious barks which the improvidence of the South Americans has long threatened to annihilate. To the Dutch we must concede the honour of having led the way to the good results which our plantations promise to afford; for although the culture of the Cinchona was thought of and even feebly attempted so far back as the year 1852, it was not until after extensive plantations were commenced in Java in 1854, that our Government was stimulated to take the matter actively in hand; and it is to the experiments, the failures, the errors of these first Dutch cultivators that we are indebted for much of the success already attained.

The chief plantations in British India are those on the Neilgherry Hills, near Madras, the most elevated mountain range in India southward of the Himalaya. "The climates of the Neilgherry Hills," observes Markham, "are the most delightful in the world, and it may be said of this salubrious region, with its equable seasons, what the Persian poet said of Kung, 'the warmth is not heat, and the coolness is not cold.'"

By a parliamentary return, it appears that in May, 1866, the number of Cinchona plants in the Government plantations in this locality was 1,233,645, of which nearly 300,000 belonged to the species yielding Red Bark, 758,000 to that affording pale or crown bark, and 37,000 to *Cinchona Calisaya*. This, it must be remembered, by no means indicated the full extent of Cinchona culture on the Neilgherries, since there were, in addition, considerable plantations belonging to private individuals. From Mr. Broughton's report published in April of last year, which is the latest information to which I have access, it appears that the number of plants of the Red Bark in the Government plantations in that locality was at that date 800,000, which is an enormous advance on the Return from which I have just quoted. Other plantations have been formed in Wynnaad, Coorg, on the Pulney Hills, and in Travancore, in British Sikkim, in the Kangra Valley in the Punjab, and at Mahabaleshwar in the Bombay Presidency. In Ceylon, the success that has attended the introduction of the Cinchona has been most marked. "Many thousands of plants," writes Mr. Thwaites, "have been distributed from the Hakgalla Garden, and I have received most favourable reports of their perfect health and vigorous growth; and not a single report of an opposite character has yet reached me: so that there appears to be every prospect of Quinine becoming, before very long, one of the most important products of the island."

From the Himalaya, the account is no less remarkable. At Darjeeling, which, as you will remember, is one of the health-stations for the Europeans of Calcutta, there are now five plantations for the cultivation of Cinchona, with an aggregate total in April last of more than 1,558,000 young trees, of which a large proportion belong to the species which furnish what are called crown bark and red bark.

But however rapid and vigorous the growth of the cinchona in India, the culture of the tree would avail but

little, unless the bark were as rich in alkaloids as that produced in South America.

In fact, at the outset of the enterprise, many persons capable of judging had considerable misgivings as to the results. If the young plants could be induced to grow, would it not be needful to wait a generation, at least, before they would produce bark that it would be worth while to remove? Should we not destroy the trees by the operation? And if we, at last, got the bark, might not it prove deficient in those constituents which render that of South America so valuable?

These surmises have happily not been verified; in fact, from the numerous analyses of Mr. Howard, Dr. De Vry, and Mr. Broughton, it is evident that the percentage of alkaloids in the bark grown in India may exceed that obtainable from the same sort of bark grown in its native country. Another point well worthy of notice is that the proportion which one alkaloid bears to another varies extraordinarily in the same species—sometimes quinine predominating, sometimes the less valuable cinchonine or cinchonidine. We are as yet, to a great extent, ignorant of the causes of this variation; but that they may be discovered and controlled seems to be the conviction of those most competent to form an opinion, for we find Mr. Howard speaks of a plant being "encouraged" to produce quinine instead of cinchonidine. In fact, the process of coating the stems with moss after the removal of the bark as first practised by that most skilful of cultivators, Mr. McIvor, is found not only to favour the rapid reproduction of the bark, but even to increase its richness in alkaloids; and it seems we may hope to go a step further, and to settle what those alkaloids shall be.

The success that has attended Cinchona culture naturally led to the inquiry whether there are not other medicinal plants that may be introduced into our Colonies with equal hope of good results? Though we can certainly point to none at all comparable in importance to that which affords quinine, there yet are a few, the cultivation of which is being attempted on an experimental scale. Of these, the most important seems to be *ipecaquanha*, plants of which are now growing at Calcutta and Madras, as well as in the West Indian island of Trinidad; but in none of these localities does the plant prosper vigorously. In fact, the experiment looks as little hopeful as the Cinchona enterprise did when the first bark trees were sent to India by Dr. Royle; and until we get a supply of good seeds from Brazil, I do not anticipate that it will be possible to make a fair trial of propagating the *ipecaquanha* plant in India or elsewhere.

The experiments made in cultivating the jalap plant (*Exogonium Purga*, Benth.) are much more hopeful, and I have the gratification of presenting to your notice the first specimen of that drug produced in India. It was grown at Ootacamund where live roots carried from England by my friend Mr. Broughton were planted in January, 1867. These roots grew with surprising luxuriance, each producing a fine cluster of tubers; some of them were dug up in December of the same year, when the largest tuber was found to weigh over a pound and a half. This jalap of India, you will observe, differs very notably in appearance from that we get from Mexico, owing chiefly to a different mode of drying; in fact, to facilitate this operation, the tubers have been sliced. It compares, however, favourably with that of Mexico, as regards percentage of resin, and, from a few trials made in India, we may judge that its medicinal powers are fully maintained.

Let me now draw your attention to a fine specimen of calumba root, the produce of plants cultivated in Mauritius. It is, as you will readily perceive, remarkable for its fresh

and brilliant colour, and, were it in the market, it would, I think, command a far better price than the somewhat dingy drug that has lately reached us through the ordinary channels of commerce.

Here are some pieces of calumba root in a living state, recently brought from Trinidad by my friend, Mr. Prestoe, Superintendent of the Botanical Garden in that island. Remark the brilliant yellow hue of the freshly cut root.

The calumba plant seems to be of easy culture, and no reason appears why it should not be cultivated for the sake of its medicinal root in any country possessing a hot climate and a moist, rich soil.

But though I am thus advocating the culture of certain medicinal plants, there is a vastly larger number, the culture of which, with a view to profit, it would, I firmly believe, be a delusion to attempt. Drugs already cheap, abundant, good; drugs in small demand; drugs which are comparatively unessential, or well represented by others; those that are only procurable from plants or trees which arrive but slowly at maturity; those which, like sarsaparilla, are only found in regions uninhabitable to civilised man; these, I say, we can afford to let remain products of the forest, some of them to disappear before the axe of the colonist, a few to hold their places in the interstices of cultivation as the companions of more important and useful plants.

Now, gentlemen, let me conclude, for I cannot but remember that there are gentlemen present who have to bring forward the results of their original experiments, while I have been entertaining you with only a narration of the labours of others. A duty, however, remains, and that is a pleasing one—of tendering my cordial thanks, in which all my fellow-visitors will join, to our Norwich friends for the excellent arrangements they have made for our meeting, and for the kindness and hospitality with which we have been received.

The address elicited strong manifestations of approval, and a vote of thanks to the President, proposed by Mr. G. CUBITT, and seconded by Mr. O. CORDER (both of Norwich) was carried by acclamation.

Mr. DEANE expressed his gratification at the admirable *résumé* of the pharmaceutical work of the year, which had been brought forward by the President, whose qualifications for preparing such a synopsis were unrivalled. He trusted that addresses of a similar character would be delivered annually, as many must have felt with him the want of periodical records of pharmaceutical progress.

THE PHARMACY ACT.

Mr. REYNOLDS, after alluding to the pleasant circumstances under which the Conference this year met, owing to the complete success which had attended their efforts in the way of legislation, moved the following resolution:—

That the cordial thanks of this Conference and the whole profession are due and are hereby tendered to the President of the Pharmaceutical Society, and those who have laboured with him, for those exertions in the cause of pharmaceutical education, which have resulted in the Pharmacy Act of 1868.

This success in legislation had not been of spontaneous growth. Every portion of it had been won for them by gentlemen who had given the subject most anxious attention, and who, for many months, must have left their own concerns, to great personal detriment, rather than allow the important matter they had taken in hand to fail by any possibility. Mr. Reynolds then mentioned different gentlemen by whose exertions the fortunate result had been secured.

Mr. SEARBY (Norwich), who seconded the resolution, thought the public ought to be equally grateful to the President of the Pharmaceutical Society and his collaborators, for it was more in the interests of the public than of the chemists that the Act had been passed.

The resolution was passed *nem. dis.*

Mr. J. D. SMITH (Norwich) had much pleasure in moving the following resolution, which bore upon the one that had just been passed:—

That it is desirable there should be some public recognition of the services rendered to the cause of pharmaceutical education, and the improvement of the status of the profession by Mr. George Webb Sandford, President of the Pharmaceutical Society, to whose careful and constant devotion the passing of the Pharmacy Act of 1868 is in great measure due.

Though his personal acquaintance with Mr. Sandford was very slight, yet it was sufficient for him to feel great respect, regard, and esteem for that gentleman. On one occasion, he had to appear before the Pharmaceutical Society in reference to this Act, and he could easily understand why Mr. Sandford should be selected year after year to fill the high office of President. His genial and warm-hearted manner, and his gentlemanly bearing and courtesy, marked him as a man who took the lead of his fellows. All societies were indebted for their existence to the minds of a few men; and were it not for the attention and assiduity those men devoted to the express object to which they gave their attention, this and like associations would not prosper and flourish.

Mr. CALEY (Norwich) seconded the resolution, which was unanimously agreed to.

On the motion of Mr. T. B. GROVES, seconded by Mr. R. B. PRYDS, the following resolution was unanimously adopted:—

That the President of the Conference be requested to address the Council of the Pharmaceutical Society, requesting the use of the society's house for the purpose of holding a meeting on Tuesday, the 6th of October next, with a view to the carrying out of the foregoing resolutions.

Mr. SAVAGE referred to the arduous work that had been performed by the Parliamentary Committee of the Pharmaceutical Society. He regarded some of the regulations relating to the sale of poisons as objectionable if not impracticable, but these had been introduced by the legislature against the wishes of the original promoters of the measure.

Mr. DEANE thought that the poison clauses of the Act would work more smoothly than some of his brethren supposed. For his own part, he did not anticipate any serious inconvenience from them.

At the request of the President, Mr. CARTEIGHE proceeded to consider the effects of the various clauses of the Pharmacy Act, 1868, which were taken *seriatim*. He stated that he was acting unofficially, and requested that his rendering of any doubtful clause might be taken merely as the expression of his personal opinion. Mr. BREMIDGE, Secretary of the Pharmaceutical Society, and Registrar under the Act, communicated valuable opinions upon the clauses as they were considered.

Passing over the Preamble, Mr. CARTEIGHE remarked that Clause 1 provided that persons selling or compounding poisons, or assuming the title of chemist and druggist, must in future be qualified; that from and after July 31st of the present year, no person should assume the title of chemist and druggist, or chemist or druggist, or pharmacist or dispensing chemist, or any designation which gave an impression to the public that he was duly qualified within the meaning of the Act, unless he had passed an examination, or was a pharmaceutical or non-pharmaceutical chemist in business prior to the passing of the Act.

Mr. SEARBY inquired whether shopkeepers in the country would be able to register under the Act.

Mr. CARTEIGHE replied that in that case, it would be important to refer to the schedules, where it would be found that a person in business before the passing of the Act would have to make a declaration in the form of Schedule C, to the effect that he had been acting "as a chemist and druggist, in the keeping of open shop for the compounding of the prescriptions of duly qualified medical practitioners before" such-and-such a date. Accompanying that declaration must be sent another, signed by a magistrate or medical practitioner, as attesting its truth. The object of that was that a person who merely sold drugs should not be registered under the Act; he must first get a magistrate or medical man to sign a certificate to the effect that to his knowledge such seller had been engaged in the compounding of prescriptions of duly-qualified medical men. Of course, there would be little instances of sailing close to the wind which could not be easily avoided.

Mr. SMITH supposed that, not being registered, they could not sell the articles mentioned.

Mr. CARTEIGHE said they could not then assume the title of chemist or druggist, and, collaterally, they could not sell any of the poisons mentioned in the schedules.

Mr. SEARBY asked whether the Pharmaceutical Society would take any steps to prevent the registration of improper persons; otherwise half the shopkeepers, who had pestles and mortars, would be registered as chemists and druggists.

Mr. CARTEIGHE replied that one clause in the Act defined the duty of the Registrar, who was under a severe penalty; in fact, he was even liable to six months' imprisonment if he neglected his duty. It would be his duty to see that the schedules were properly filled up, that the certificates were signed by the authorities named, and that they were duly qualified medical practitioners or magistrates. If a shop-keeper who had signed a certificate was found not to have been engaged in compounding prescriptions of duly qualified medical practitioners it would be a penal offence. The second clause provided that the articles mentioned in Schedule A should be assumed to be poisonous. Many poisons of considerable virulence were, however, omitted, but it would be within the power of the Council of the Pharmaceutical Society, with the concurrence of the Privy Council, to order any other article which in a concentrated form would be poisonous to be added to the list, notice thereof to be given in the *London Gazette*. Chemists and druggists were defined in Clause 3 to be persons who had carried on that business "in the keeping of open shop for the compounding of the prescriptions of duly qualified medical practitioners," also of all assistants and associates, who before the passing of the Act should have been duly registered under or according to the provisions of the Pharmacy Act. After remarking that a duly qualified medical practitioner was one registered under the Medical Act, and that the majority of the Coffinites would be excluded, Mr. Carteighe, in reply to Mr. Lenton, said if a man who had settled in a village, managed to get registered, and it should be found that he was not in the habit of compounding prescriptions, then he was liable to a penalty; and if it could be shown that his certificate was signed by a doctor, as suggested, knowing it to be incorrect, then that doctor would be liable to a penalty too.

Mr. LENTON (East Dereham) thought that in the eye of the law such a man would be as well qualified as the best educated man amongst them.

Mr. CARTEIGHE said not in dispensing; he must not only be a chemist and druggist, but a compounder of prescriptions. Clause 4 related to assistants and apprentices. Any person of full age at the time of the passing of the Act, who should produce to the Registrar a certificate that he had been for three years actually employed in dispensing prescriptions, should, on the passing of such modified examination as the Council of the Pharmaceutical Society, with the consent of the Privy Council, might declare to be sufficient evidence of his skill, be registered as a chemist and druggist under the Act. That clause was intended to apply to all brought up to the business in an orthodox manner. It seemed to be understood that assistants would have to go to London to be examined before the end of the year. Such was not the case. They must sign a schedule, showing they were assistants, and their masters must sign a similar certificated schedule showing that they had been assistants, and then the application when made to the Registrar would be filed, and the assistant examined at any time convenient to himself, but before he went into business.

Mr. SCHACHT was in favour of the examinations being local, as it would put the assistants in the country at an unnecessary disadvantage to go at any time up to London to pass the examination. He was anxious to promote the earliest possible reception of all assistants within the terms of the Act, that the public might be the sooner assured that chemists employed legally qualified assistants only. Since the legislature had refused to the class of assistants the very easy means of entrance which it proffered to all employers, he trusted that the examinations for assistants would be made as lenient as was consistent with their object.

Mr. ABRAHAM had brought the question of simultaneous local examination before the Council of the Pharmaceutical Society at a recent meeting, but had not succeeded in con-

vincing that body of their necessity or advantage. It was right, however, that assistants who were disposed to complain of any hardship shown towards their class by the Act, should remember that they were the persons who might be expected to reap eventually the greatest benefit from the Act. If it were successful, either with respect to themselves or to the public, it was the younger members of the profession who might be expected to witness that result. The practical operation of the Act would have been very remote, if assistants and apprentices had been entirely exempted from its operation; and he had not found that they were disposed to complain.

Mr. CARTEIGHE said that the Council did not consider that the *viva voce* and practical examination which it proposed could be carried into effect excepting in London, and he believed that assistants would prefer this to any examination by written papers.

Mr. EVANS said that the scheme of the modified examination was determined on by the Council of the Pharmaceutical Society, but awaited confirmation by Her Majesty's Privy Council. It was of a thoroughly practical character, and did not demand much theoretical knowledge. No assistant unable to pass it could be fit for the responsibilities of his daily duties.

Mr. REYNOLDS could not agree that simultaneous local examinations were impracticable, because practical questions were required to be embraced. The Universities and the Department of Science and Art were able to take perfectly equitable simultaneous examinations in practical chemistry at various provincial centres, in addition to their written examinations. Mr. Radley, of Sheffield, and other chemists, had expressed to him strong opinions on this point. Some years since, the Pharmaceutical Society took what was intended as a first step in this direction, by an alteration then made in the Board of Examiners. The matter deserved further consideration.

The subject was then adjourned to a future sitting.

After a short interval, business was resumed at 2 p.m., by the reading of papers.

ON HONEY, ITS FORMATION AND CHANGES. BY W. W. STODDART, F.G.S. (Abstract.)

The author having referred to the numerous pharmaceutical and domestic uses of honey, and to the difficulty of obtaining this important product unadulterated, pointed out the contradictions of those who had written on the chemistry of honey. His own experiments proved that in the honey of the shops there were three principal kinds of sugar, the relative proportions of which varied according to the age of the product. His observations on the natural history of honey, had led to the conclusion that these three sugars were all products of the decomposition of cane sugar.

On examining the disk of a flower a number of glandular or scale-like bodies might be seen, and when the flower was at its height of beauty these glandular bodies were filled with a sweet liquid. In many plants, as the *Ranunculus* and *Fritillaria*, there were, at the bases of the petals, small glandular cavities containing the same fluid. This sweet fluid was a true sugar-syrup, eliminated from the amyaceous sap of the plant, and its office was probably to afford nourishment to the stamens and pistil. The bees resorted to many plants in preference to others; and, what was still stranger, a bee only attacked one kind of flower in a garden at each visit, as might be easily proved by examining a bee on its return to the hive, when the adhering pollen grains would be found to be all of one kind.

The local flora had the greatest possible influence on the taste, colour, and other qualities of the honey of the neighbourhood. For instance, that from the sandy districts of Worcestershire and Salisbury Plain had a rich golden colour, while that from Wales and the suburbs of Bristol had a dark, dirty-brown colour and coarse taste. On examining the sap of many immature flowers, it was found to give a distinctly bluish colour with iodine, showing the presence of starch. After the lapse of twenty-four hours, the sap was sweetish, and iodine then only gave a dirty greenish-brown colour. The highest degree of sweetness was just when the flower fully expanded. To find out what the sweet matter was the author extracted it from the

flower, and submitted it to microscopic examination. The part of the petal or disk, according to the flower, was sliced and unacrated for a short time in a little cold distilled water. The liquid was then treated with lime and carbonic acid, filtered, and evaporated *in vacuo* over sulphuric acid, on a glass slip. The crystals obtained were found to have the characteristic angles (90° and 134.25°) of pure sucrose. Their separation was attended with considerable difficulty, owing to the rapid conversion of sucrose into glucose. The bee, led by instinct to its favourite plants, inserted its ligula into the corolla, lapped up the sacchariferous liquid, and passed it into the honey sac. The ligula was not, as was once supposed, a hollow tube through which a liquid might be sucked, but was a solid flexile organ covered with cirrlets of hairs. It was retracted into the mouth and wiped, as it were, by the fauces. While retained in the honey-bag the sweet liquid was mixed with an acid, probably formic acid, and to the presence of this body the author ascribed the peculiar tingling sensation in the throat that was frequently experienced when much honey was eaten. The formic acid might be produced from the sugar by the action of oxygen. On arriving at the hive, the bee deposited the contents of the honey-bag in the comb. At this stage honey was a clear, thick, yellowish liquid, having the sp. gr. 1.423; and did not give a blue colour with tincture of iodine. After collection this honey gradually thickened and deposited crystals, becoming somewhat opaque. A portion placed under the microscope would be seen to consist of a mass of regularly-formed crystals, floating in a clear liquid and interspersed with pollen-granules. These crystals were found to be those of dextro-glucose; they were very thin and transparent, and the measurement of their angles was 120° . They were evidently produced by the gradual decomposition of sucrose. The transformation of the sugar proceeded from day to day till the honey "set" or became a solid mass of crystals. After a time, say twelve months, so much of the honey became changed into masses of crystallised glucose that it "candied." The glucose itself in time began to ferment and form other compounds. The hexatomic alcohol mannite was thus formed; and in very old or badly-kept honey, alcohol and acetic acid might be detected. The fluid part of old honey was laevulose, or left-handed glucose. It was uncrystallisable and turned the polarised ray to the left instead of to the right. The pollen-grains might be easily separated for examination, by dissolving a little honey in a few drops of distilled water contained in a conical glass. They collected at the bottom very little altered, and ready for transferring to the usual glass slip. The general conclusions arrived at by the author were, that honey was originally formed from a solution of cane-sugar (sucrose), which gradually changed into grape-sugar (glucose); that small portions of mannite, formic acid, and alcohol resulted from the decomposition of the sugar; and that the colour and flavour of honey might be traced to the flowers which the bees had visited.

With respect to the adulteration of honey, the author stated that he had examined specimens adulterated with pea or bean-flour, turmeric, pipe-clay, brown-sugar, treacle, gypsum, yellow ochre, fine sand, and water. When sugar was used as an adulterant, it might be readily detected by the microscope, as its crystals could not be mistaken for those of the sugars of honey; besides the well-known sugar-itch insects might generally be seen in the field of vision in all stages of growth. The author believed that a great deal of honey largely adulterated with starch-sugar was imported from the Continent, but as starch-sugar was nearly identical with the true glucose of honey the imposture could not be proved satisfactorily.

[Mr. Stoddart's elaborate paper was illustrated by beautiful microscopic drawings and specimens.]

At the request of the President, Mr. STODDART explained his method of obtaining sucrose from flowers, for microscopic examination. Having washed the sugar-bearing portions of a number of flowers in a very small quantity of distilled water, he added lime to prevent the decomposition of the sucrose, he then removed the lime by means of carbonic acid, and obtained a drop or two of a filtrate from the edge of a piece of blotting-paper upon which the turbid liquid was placed.

The thanks of the Conference were voted to the author of this paper, and subsequently to the other essayists as their papers were read.

OBSERVATIONS AND EXPERIMENTS ON ROSE-OIL. BY DR. F. A. FLUCKIGER, OF BERNE. (*Abstract.*)

In this communication the author described a series of experiments undertaken to determine the nature and properties of rose-stearoptene, the solid hydrocarbon contained in attar of roses. He alluded to the researches of previous investigators which had established the fact that attar of roses was a mixture of liquid oil, the source of the perfume, and of a solid hydrocarbon entirely devoid of odour. He called special attention to the recent experiments of D. Haubury, which proved that this stearoptene was found in a comparatively large proportion in the roses of western and even northern Europe, and that it sometimes exceeded in weight the liquid portion. The samples of genuine rose-stearoptene examined by the author had been prepared by Mr. Haubury from Mitcham roses. He stated he had tried in vain to obtain perfect crystals of this curious body, but had found no difficulty in obtaining microscopic crystals by cautious melting and subsequent cooling. These crystals were generally in the form of truncated hexahedral pyramids, and were often curved in a very peculiar manner; hence they might be readily distinguished from crystals of spermaceti, or of any of the fatty acids. By repeatedly dissolving the stearoptene in chloroform and precipitating it by spirit of wine, and finally heating it at 212° Fahr. for some hours it was obtained entirely odourless. On heating it to the point of decomposition it emitted a very offensive odour, exactly like that of heated fat or wax. The results obtained on submitting the stearoptene to the action of various re-agents proved that it was a very stable body, and the conclusion to which the author was ultimately led was that the stearoptene of roses would be found to belong to the paraffin series.

The reading of this important paper was followed by a discussion as to the desirability of connecting permanently with the Conference those foreign pharmacologists who showed their interest in its proceedings. Mr. BRADY, who started the discussion, and Professor ATTFIELD and Mr. SUTTON agreed in thinking that a class of foreign members should be instituted to enable the Conference to express its sense of the honour done to it in such a case as this. The formal consideration of the subject was postponed.

SIPHON MEDICINE GLASSES. BY BARNARD S. PROCTOR. (*Abstract.*)

The author described in a humorous style the difficulties attending the administration of medicines to infants, and the means he had adopted to overcome them. Trusting to the sick child's instinctive disposition to suck, he fitted the tube of a Gilhertson's feeding-bottle, broken short, into a cylindrical measure, and found, with much satisfaction, that whatever was placed in the measure was taken not only without much difficulty, but often with eagerness. Rhuaharh mixture and castor-oil were alike acceptable if only offered when the stomach was empty. The author had consequently introduced graduated glasses of suitable size and shape, and fitted with cork, tube, and teat. The following were the advantages of administration with this glass over the old plan of giving medicine with a cup and spoon:—

1. The glass being accurately graduated, the dose might be measured with correctness and facility.
2. The medicine being in a deep vessel was not liable to be spilled.
3. The glass being corked, the child did not smell the medicine, the odour of which, if given in the old way, would often produce a feeling of disgust before a drop had entered the mouth.
4. The medicine being conveyed to the back of the mouth through the tube and teat, it was less tasted.
5. The tube descending to the bottom of the glass, any heavy materials were sucked up first, and made sure of, while by the old method they were apt to be left behind in the cup or spoon.

6. The act of sucking being instinctive, there was no choking nor sputtering, consequently no loss of medicine, nor uncertainty as to how much had been taken, and no soiling of the infant's or nurse's clothes.

7. A dose might be given to the infant while asleep, without its being roused, the application of the teat to its lips being generally sufficient to make it suck in its sleep.

The adult's siphon medicine glass was simply an acid tube fitted to a graduated glass of a deeper pattern than usual, and it might be used with convenience and advantage wherever an acid tube was required.

A FEW RESULTS OF A MICROSCOPIC AND MICRO-CHEMICAL EXAMINATION OF THE ALKALOIDS. BY M. J. ELLWOOD.
(Abstract.)

The research, of which the first results were given in this paper, has been undertaken to ascertain the practical value of the few tests already proposed for detecting the presence of impurities in commercial alkaloids. Five samples of commercial sulphate of quinine obtained for the experiments stood the tests of the *British Pharmacopœia*, but De Vry's iodide test showed the presence of traces of cinchonine and quinidine. Under the microscope, Howards' sulphate of quinine was seen to be composed of opaque and transparent crystals, many of the opaque ones being of large size, and appearing like bundles or masses of crystals. The foreign quinines contained more of the transparent and smaller crystals, but two of the samples contained amorphous quinine. According to the author, Mr. Stoddart's sulphocyanide test answered well when either *very minute* or *very large* quantities of quinidine or cinchonine were present in quinine. He had failed, however, to obtain decided results with a quinine known to contain five per cent. of impurities. The purer the quinine was, the more decided and distinct were the sulphocyanide of quinine crystals deposited, the presence of quinidine or cinchonine affecting more or less the shape of the crystals. The sulphocyanide of potassium failed to give any decisive results with the samples of foreign quinines, and although a very large number of experiments were made, the author could only infer the presence of quinidine and cinchonine by the less distinctive character of the sulphocyanide crystals. Sulphocyanide of potassium gave crystalline precipitates with quinidine and cinchonine, and also precipitated the quinine from the compound tincture as perfectly as from an aqueous solution. The next precipitant tried was iodo-hydrargyride of potassium solution, prepared as recommended by Mr. Tuck at the Bath meeting, for detecting methylic alcohol. This solution gave a crystalline precipitate with cinchonine sulphate, and yellow amorphous precipitates with quinine and quinidine. The cinchonine crystals were small hairy tufts, somewhat resembling the crystals of tartrate of cinchonine. A solution of 240 grains of neutral tartrate of potash in 1 ounce of distilled water, was found to give crystalline precipitates with quinine, quinidine, and cinchonine. The tartrate of quinine was precipitated in tufts of needle-shaped crystals, the quinidine in prisms, and the cinchonine in minute tufts. The author had not been able to decide whether the tartrate of potash would detect the presence of either of the alkaloids occurring as impurities in sulphate of quinine, but had found separate crystallisation take place in a mixture of quinidine and cinchonine. [This paper was illustrated by numerous micro-photographs taken by the light of a paraffin lamp.]

Mr. STODDART could not admit that the sulphocyanide test failed to detect quinidine at the point where the author of the paper had ceased to obtain satisfactory results: on the contrary, it would detect so little as 1 per cent. of quinidine. However, it was needless to make the sulphocyanide solution by the direct solution of sulphur, according to the instructions which he (Mr. S.) had already published; a solution prepared from ordinary crystals of sulphocyanide was not a substitute for this. Mr. Stoddart spoke strongly in favour of using common and cheap object-glasses in micro-photography, rather than the highly-corrected ones of first-class makers. Mr. BRADY and Mr. SUTTON, on the other hand, contended that the best results were obtained by the use of

first-class objectives, provided the focal distance was corrected for the difference between the visual and chemical foci.

REPORT ON SWEET SPIRIT OF NITRE. BY W. LAIRD, DUNDEE.
(Abstract.)

The results of the examination of numerous samples of sweet spirit of nitre were detailed in this paper. Most of the samples, when received by the author, were more or less discoloured from the decomposition of the corks, which, in some cases, were almost as much affected by the liquid as they would have been had they been used to stop phials containing dilute nitric acid. The author said that the natural deduction from this observation was, that in every case where sweet spirit of nitre was likely to be kept for any length of time, whether in family or ship's medicine chests, it ought to be put up in stoppered bottles. All the samples were found to be acid; and to show to the Conference the degrees of acidity, the author had added a grain of iodide of potassium to fifteen minims of each liquid. The relative quantities of free acid present were, of course, indicated by the tints produced by the different quantities of iodine set free. The effect of neutralising the free acid with carbonate of magnesia was also shown, in the hope of eliciting an answer to the question, "should sweet spirit of nitre be neutralised before being sold?" The sp. gr. of three samples ranged from '830 to '838, showing that they had been made according to the old London Pharmacopœia. The sp. gr. of six samples ranged from '840 to '848, and therefore indicated the B. P. strength with sufficient precision. Five samples had the sp. gr. '850, which, according to the author's previous investigations, indicated the strength most commonly sold. One sample having the sp. gr. '860, had probably been weakened by the escape of nitrous ether round the wasted cork. One of sp. gr. '950 was a very bad sample of adulteration; it was sold at 3d. per ounce, and contained two parts of water to one of spirits of nitre. Three samples, two of sp. gr. '930, and one of sp. gr. '928, had evidently been adulterated with equal parts of water. The general result of the examination of these samples was satisfactory, as in a previous examination the author had detected wilful adulteration in rather more than one third of the samples.

The PRESIDENT said, that his experience of the process for sp. æther. nitr. in the B. P. was favourable to it, the product being perfectly satisfactory.

Mr. SUTTON could not accept as very definite the iodine test described by the author of the paper.

Mr. DEANE was not aware of any objection to the use of an alkaline bicarbonate, or of a proper quantity of liquor potassæ to neutralise free acid of sp. æther. nitr., when it had to be dispensed in combination with iodide of potassium.

Professor ATTFIELD confirmed the President's remarks as to the results of the formula given in the B. P. He found that the junior students were always able to make a satisfactory preparation by following the directions of that formula.

ON THE ADULTERATION OF ANNATTO. BY W. LAIRD, DUNDEE.
(Abstract.)

The author had been led to examine a specimen of commercial annatto which had been supplied to him about two years ago, labelled "roll annatto." It had lost its original rich colour and softness, and numerous crystals of salt had formed upon its surface. Having weighed out a hundred grains, he digested it for twenty-four hours in two or three ounces of spirits of wine, boiled the residue in two ounces more, then put it in a percolator, and passed spirit through it till it came off colourless, finishing off with ether, which also came off colourless. Being thus assured that he had thoroughly exhausted the annatto of the "orelline," he dried and weighed the residue. The weight obtained was about 85 grains, a pretty fair percentage. On boiling a small portion of this residue in water, cooling, and testing with iodine, it gave the blue starch reaction. Under the microscope this residue had the appearance of what is sold for "linseed meal," mixed with minute portions of an

emerald green substance. These results were sufficient to show that roll annatto, as supplied to the trade, instead of being the best annatto, is merely a paste of fariua and salt coloured, with about fifteen per cent of annatto. The author said that the merchants might not be able to supply pure annatto at the ordinary price, 1s. 4d. per lb., but they would have no difficulty in obtaining a fair price for the genuine article from honest dealers.

Mr. J. D. SMITH said that the members of the Conference from a distance would do a practical service to chemists in the country if they could tell them where to get good annatto. They could hardly sell a pound of annatto now-a-days without having it returned as being adulterated. They would be glad to sell pure annatto if they could get it.

The PRESIDENT said that annatto was no longer grown in the British West Indies, but he thought he might say that the whole came from the French colony of Cayenne, and it certainly was grossly adulterated. He was glad to know that there was a possibility of its being grown in English colonies, as a specimen prepared in Guiana had been sent to him, and most favourably reported on by a London importer who had seen it.

Mr. EVANS called attention to the fact that one sort of annatto was used for butter and another for cheese. What was usually sold was certainly "a villainous compound." He had reason to believe that attention was being given to the reintroduction of the manufacture in the British West Indies.

Professor ATTFIELD said that no better illustration could be given of the use of their discussions than the present. A crying evil, felt by the trade throughout the country, had been now exposed, and the many thousands of reports of this discussion which would be circulated throughout Europe and the colonies would tell those who could produce a pure article that they would find a ready market in England.

REPORT ON THE QUANTITY OF ALKALOID IN VARIOUS SPECIMENS OF CITRATE OF IRON AND QUININE.
BY J. C. BRAITHWAITE. (Abstract.)

The author had examined ten fresh samples of citrate of iron and quinine, and had arrived at the gratifying conclusion that they contained more of the alkaloid than the samples he had previously reported on. Nevertheless, there was still plenty of room for improvement, as out of the ten samples not more than four could be regarded as fair specimens of the official preparation. One of the samples contained only about one-fourth of the proper quantity of alkaloid, another about one-third, two about one-half, two others not quite three-fifths; whilst the remaining four yielded about the legitimate proportion. The principal results obtained are tabulated below:—

	Per cent.		Per cent.
No. 25 contained	3.88 of quinine, or	6.062	of its citrate
26	" 5.5	" 8.59	"
27	" 7.84	" 12.25	"
28	" 8.	" 12.5	"
29	" 8.4	" 13.125	"
30	" 9.58	" 14.968	"
31	" 15.	" 23.437	"
32	" 15.16	" 23.68	"
33	" 15.44	" 24.12	"
34	" 16.	" 25.	"
35	" 17.	" 26.56	"

The last specimen was taken from a quantity prepared by the author's own formula, an excess of quinine having been purposely introduced. The author stated that the samples examined were evidently products of two different processes, for Nos. 26, 31, 32, 33, and 34 occurred in more or less darkish-coloured scales, yielded dark-coloured solutions, and the quinine precipitated from them, when dried, was of a dark colour; whereas, Nos. 25, 27, 28, 29, and 30 had scales of a more or less golden green colour, yielded golden yellow solutions, and the quinine precipitated from them, when dried was of a light colour. He had observed also that the quinine of the last series was much whiter at the time of precipitation than that of the first, and separated from the solutions with greater facility. No. 35, used in comparison, agreed in character with those of the last series.

Mr. BAKER (Swaffham) hoped that at least the names of the makers of a good preparation would be published, that it might be known where to procure it.

The next paper being short, we print it without abridgement.

ON PURE WHITE GUTTA PERCHA. BY F. BADEN BENDER.

The demand for this substance, for dental purposes, is now sufficiently established to justify me in making a few remarks on it and its preparation. I have examined specimens of the so-called "pure white gutta percha" now commonly sold, and find that for the most part they may have been designated almost as correctly "pure white oxide of zinc," being made up with this substance in very large proportions, and I believe thereby rendered less tough, durable, and fit for the purpose; this opinion has been strengthened by the fact that persons to whom the pure and afterwards the commercial article have been supplied, have frequently complained of the inefficiency of the latter. I am further induced to describe the process I use, by the very high price required by makers of the really pure substance.

A good sample of crude gutta percha will yield at least 75 per cent. of the pure resin. Some care should be taken to obtain a specimen with as little impurity as possible. The bottle marked No. 1 contains some of the kind I find best; it is imported in roundish blocks, which are exceedingly hard and difficult to cut, but any of the large gutta percha manufacturers will supply the same, torn into fragments similar to the accompanying specimen. Four ounces of this digested with 5 lbs. of methylated chloroform for a few days, will form a solution sufficiently fluid to filter through ordinary bibulous paper; this should be conducted in such a manner as to allow little or no loss of chloroform by evaporation, the apparatus for filtering volatile liquids described in Mohr and Redwood's "Pharmacy" answering the purpose; the addition of another pound of chloroform rendering the filtration more expeditious. To the filtered solution, which should be bright and nearly colourless, add an equal bulk, or a sufficient quantity of spirit of wine to precipitate the gutta percha, which will separate from its solvent as a white bulky mass; this should be rinsed with spirit, pressed in a cloth, and dried by exposure to the air, its condition is then that of the accompanying specimen, marked, "No. 2," perfectly white, but too porous for dental use; it should then be boiled for half an hour in a porcelain capsule and rolled in sticks whilst hot, as specimen "No. 3." The chloroform can now be separated from the spirit by the addition of water, and lastly the spirit from the water by distillation, at the leisure of the operator.

There is, therefore, no reason why the chemist should not prepare this substance himself, and if he is careful to prevent the loss of chloroform and spirit in the process, its reduced cost and greater purity will compensate him for the trouble.

The PRESIDENT called attention to the large and beautiful sample of white gutta percha prepared by Gehe and Co., of Dresden, and exhibited by Messrs. W. J. Coleman and Co.

The next communication was presented by Mr. INCE.

A LETTER ON THE RELATION OF REMUNERATION TO PHARMACEUTICAL RESPONSIBILITY. BY R. W. OILES, CLIFTON.

The subject of pharmaceutical ethics, which in its general aspect, was so ably brought before the Conference two years ago, at Nottingham, is naturally suggested for further consideration at the present time, in certain phases connected with the Pharmacy Amendment Act, and also with a certain deplorable catastrophe, which can scarcely be called an accident, resulting in the death of a young lady from this place by an improper dose of a most improper solution of strychnia. Regretting much that circumstances will not allow me to be present at the Norwich Conference, but being unwilling to be altogether shut out of the discussion, which will no doubt take place upon these and similar topics, I venture to send an epitome of my opinions in the following remarks.

Up to the present time British pharmacy has occupied a very dubious position. This has at last been recognised by the legislature, who have been induced, after much unsue-

cessful pressure, to provide a remedy by defining the qualification which shall be required from all pharmacutists, and protecting them from the aggression of unqualified competitors.

This is a new stato of things; and it concerns us much to form a right estimato of our privileges and responsibilities under the new regime, not forgetting that the two are reciprocally associated. Hitherto the reciprocity has been altogether one-sided! the public insisting peremptorily enough upon our responsibilities (demanding, indeed, an infallibility, which is not human), but privileges had we none! The external relations of pharmacy have, therefore, been anything but satisfactory to us, nor do I think that they have proved advantageous to the public; for although there are many amongst us who recognise and conscientiously fulfil the highest requirements of our calling, we dare not assert that pharmacy is well represented in the practice of the majority.

Pharmacy has, in fact, struggled against unfavourable conditions, and we need not be surprisid if under these conditions it has not risen to the level of its theoretical standard. From this cause I venture to think that all its existing anomalies have proceeded; but we may hope that the end of these things is approaching, and that a time is coming when pharmacy will have a fair field for its development, amongst a body of practitioners universally influenced by a feeling of professional responsibility.

Granted that "*pharmacy is a trade*," it is nevertheless a trade with exceptional responsibilities, and demanding exceptional qualifications, which take it out of the category of ordinary trades. It is, in the first place, incumbent upon pharmacutists to fulfil these requirements, which again have their correlative claims for recognition upon the public in whose service they are rendered. We have lately seen these claims urged with considerable force in the public journals, and it appears that there is a disposition at the present time to give them favourable consideration. I am not so sure that there is not a little danger of pushing them too far, and of somewhat overlooking or taking for granted the obligations upon which alone they can be fairly rested. The question of remuneration is most important, and there is nothing undignified or unprofessional in discussing the subject of prices; but we should make a fatal mistake if we attempted or desired to regulate the form in which medicines are prescribed, with the object of increasing our own profits. This would be in effect to assume that the sick were made for the chemist, and not the chemist for the sick. The only consideration which ought to weigh in this matter, is the convenience and advantage of the patient, and I hope that if other views have appeared to be entertained they will be promptly disavowed by the intelligence of the trade. It is, in my opinion, absurd to think of reverting to the old system of draughts, or to expect that medicines shall be prescribed in four or six part bottles, to the exclusion of doses by the tablespoon, teaspoon, or by drops, to be diluted when administered at home. There are many good reasons for the adoption of these forms, independent of economy to the patient, which is in itself a good reason. If to dispense such medicines is not remunerative, the fault is our own, for we have it in our power to charge a remunerative price; and this brings us to the question of prices, which it is fairly within our province to discuss. I cannot think that the present average prices for dispensing are satisfactory, but it never appeared to me that this subject could be approached with advantage until some legislative measure, similar to the Pharmacy Amendment Act, had been passed. Low prices are generally the effect of excessive competition, and what hope was there of dealing with the question of prices when the competition was between the qualified and conscientious pharmacist, and the irregular interloper who tacked a degenerate pharmacy on to his miscellaneous pursuits? We may, however, now profitably devote some of our attention to the anomalies by which we find ourselves surrounded.

First, we may remark that while our business is more responsible than any other trade and demands from us greater sacrifices, it is one which offers perhaps the smallest rewards of any. As a trade its returns are very small, while its claim to a professional principle of remuneration for that portion of its duties which are certainly quasi-professional is not recognised. All the operations of the dis-

persing counter are special, and it is a maxim in manufactures that no special operation pays. This maxim ought therefore to govern our dispensing prices, and to secure for them something like a professional rate of remuneration. But in practice, I believe, no trade renders so large an amount of personal service for sixpence,—the usual price of half-a-dozen pills. I beg to doubt whether any pharmacy could be supported by a trade consisting entirely of making heterogeneous prescriptions of six pills for sixpence.

Second, it is a curious inconsistency that our remuneration is in the inverse order of our responsibilities. For example, it is more profitable to us that the qualified assistants, whose services we find it necessary to secure, should be engaged in the trivial occupation of vending perfumery, hair-washes, and the like, than that they should be employed in the exercise of their higher qualifications in the responsible duty of dispensing prescriptions, often a duty of considerable anxiety. I do not of course mean that the percentage profit upon the goods sold is greater in the first case than in the last, but that an assistant can make a larger *net* return in the one case than in the other, and simply because the one trade is done by the dozen, while every individual transaction of the other is the subject of a separate manipulation. I do not think that this fact is sufficiently appreciated, but it helps to explain another anomaly, viz., that dispensing charges are usually lowest where dispensing forms but a small portion of the trade, and highest where the dispensing predominates. Ordinarily increased production diminishes the cost of supply; but the immense cost of dispensing operations forces itself practically upon the experience of the dispensing pharmacist, whereas the apparent large profit upon the cost of materials misleads the chemist and druggist by fallacious contrast with his retail transactions. The same topsy-turvy rule prevails if we confine our view to the varied operations of dispensing only. When we dispense single draughts or ordinary mixtures in dilute doses, we receive the largest profits with the smallest risks and the least anxiety; but when we have to dispense concentrated preparations, frequently of deadly ingredients, to be administered in drops, how easy is it for a fatal error to occur in the compounding, while any error in the label—say the substitution of a wrong label—would almost certainly be dangerous! For these critical operations our remuneration is little more than that of retail trade.

This state of things must be wrong; the question is how it can be remedied. It has been sometimes suggested that our scale of charges should be governed by the number of doses, and although I do not think this principle can be applied undeviatingly, I do think that it ought to receive more consideration, and I hope that some advocate of the system will support his views at the Norwich meeting.

It would be sanguine to expect an immediate remedy for a case of long-standing, nor are sudden changes to be desired or to be trusted. We must patiently wait for the beneficial operation of the Pharmacy Amendment Act, first by a slow process weeding out that irregular competition already referred to, in the place of which we may hope to see a laudable emulation in excellence rather than in price, giving us a higher standard, as well as greater uniformity, throughout the trade. Many will remember the sweeping accusation recently made in one of the medical journals by a medical practitioner, that if the same preparation were taken into half-a-dozen different chemists' shops, the medicine would scarcely correspond from any two of them. Unfortunately, our own experience tells that there is too much truth at the bottom of this damaging imputation, and while it is so we cannot hope that pharmacy will take its rightful place in public estimation—which cannot be secured by the merits of a few, but must be deserved by the conduct of the many. Simultaneously, it is to be hoped that the practice of preparing our own compounds will become general, and that the time will soon arrive when a laboratory will be considered an indispensable part of every pharmacy. Perhaps I am over-riding a hobby, but I hope to be excused for saying that there is only one way by which a pharmacist can acquire the proper interest in, and have the proper guarantee of the quality of his preparations—of course, I exclude chemicals,—and that way is by manufacturing them on the premises. There is, on the other hand, no cause so productive of underselling, or

so prejudicial to our professional aspirations, as the practice which has grown up comparatively of late years of buying everything ready-made, whereby we become the mere chapmen of drugs.

Although we may not, on the score of a vested interest in the profits of the supply, interfere with the form in which prescribers may think fit to order the medicines which it is our province to dispense, we may upon totally different grounds (viz., in the interests of the public safety) set ourselves resolutely against that dangerous system of prescribing deadly ingredients in concentrated forms, such as recently caused the distressing death of Miss Campbell. Such medicines as that placed in the hands of this unfortunate young lady, are not fit for the manipulation of any but a competent and careful pharmacist. What an outcry would be raised if one of us permitted a partially-trained apprentice to manipulate such a solution, in the event of a similar casualty arising from his blunder! It is not only a duty to the public, but it is due to our own security, that we should resist this which, I am told, is a growing practice in London, and which we may expect will extend (as London usages commonly do) to the provinces. It is not just that we should be exposed to the risk of compounding these preparations in the hurry of business, when any miscarriage would be fraught with danger, for which we should be legally (although the prescriber might be morally) responsible. I have clearly made up my mind that when it is necessary to dispense these objectionable medicines, our duty to the public requires that we should make them the subject of special precautions, and our duty to ourselves requires that they should be made subject to special prices. We might also represent to the profession (with whom our relations are now so much improved as to be generally of a frankly confidential character) the inadvisability of prescribing poisonous quantities of any ingredient in any single bottle containing medicine for internal administration; especially in any bottle, the capacity of which would permit of its contents being accidentally taken at a draught; and I think that any bottle containing a poisonous ingredient in sufficient quantity to endanger life—whether intended for external use or for internal administration—ought to bear conspicuously a "Poison" label. This, perhaps, might be regarded as a little gentle pressure upon those prescribers who were obnoxious to a prudent suggestion. There are, of course, numerous precautions affecting the accurate execution of those duties which are exclusively ours, which it is incumbent upon us to observe. It is not necessary to describe any of them in this communication; it is sufficient for the ethical treatment of the subject to acknowledge that our responsibilities obviously involve the adoption of every precaution which offers additional security for the safety and welfare of the sick, whose lives and whose health depend upon our accuracy, and, let me add, upon our honour. Taking a selfish view of the case, he is an unwise man who does not secure his own peace of mind by surrounding himself with every safeguard which can diminish the risks of a business begirt with perils. In thus endeavouring to bring about a safe system of prescribing and supplying medicines, we shall deserve the gratitude of the public, and shall not incur the reproach of attempting to use the Pharmacy Act as an instrument for establishing an injurious monopoly which, above all things, it is desirable that we should avoid.

The views which I have endeavoured to place before you in the foregoing remarks resolve themselves into this: Let us complete our own reform, and when we have put our house in order internally, we may hope to arrange our outside relations with the public upon a mutually advantageous footing. We must have patience, and must not expect too much. Moreover, we must be prepared to give a full equivalent in services for all that we demand in exchange. We ought not to desire (most certainly I do not desire) extravagant prices, but we have a right to expect such prices as will enable us to supply medicines of genuine quality, reliable for the cure of disease, compounded and dispensed by qualified assistants who shall be adequately remunerated for their labours, and such as will afford to the industrious pharmacist a reasonable prospect of providing for his latter days without the aid of the Benevolent Fund. We also have a right to expect that the importance of our duties when conscientiously discharged, and the nature of the qualification which we are required to possess, should raise

us in the social scale somewhat above the status of ordinary trades, and that the profession of pharmacy, instead of proving, as it now does, an obstacle to the honourable status of a gentleman, should be held to imply all those qualities which make the name of "gentleman" desirable.

Clifton.

RICH. W. GILES.

Mr. DEANE said that it was unquestionable that the profits of the drug trade were larger formerly than at present, although the working expenses of the chemist were now much increased, and he had to expend a much larger sum upon his technical training. It was desirable to obtain statistics, showing the reductions in profits that had occurred within a term of years, and he hoped that someone would lay those before some future meeting.

Mr. GOSTLING (Diss) also spoke on the relations of country chemists to this question.

SECOND SITTING.

On Wednesday, August 19th, the members re-assembled at 10 a.m. Invitations were received for Exeter, Plymouth, Torquay, and Liverpool, and the Conference could not doubt that the success of a meeting in any one of these towns would be insured by the earnest labours of the resident chemists. The selection of a place of meeting for 1869 was deferred until the final sitting of the Conference appointed for August 25th, when the decision of the British Association respecting its next meeting would be known. The papers read during the day are enumerated below, and abstracts of them will appear in future numbers of our journal:—

- "Granular Citrate of Magnesia." By F. C. CLAYTON.
- "On Senna." By T. B. GROVES, F.C.S.
- "Lemon Juice and its Decompositions." By W. W. STODDART, F.G.S.
- "What is Opium?" By Dr. F. A. FLÜCKIGER, Bern.
- "Note on Products of the Decomposition of Narcotine." By J. C. BROUGH, F.C.S.
- "Note on an improved Differential Thermometer." By J. C. BROUGH, F.C.S.
- "Note on faulty samples of Potash and Soda Water." By B. S. PROCTOR.
- "Description of an Automatic Arrangement for Continuous Filtration and Washing Precipitates." By H. B. BRADY, F.L.S.
- "Note on the specific gravity of Tinctures." By W. LAIRD.
- "Note on a New Variety of Black Wax." By R. REYNOLDS, F.C.S.
- "Report on Scammony and Jalap." By H. S. EVANS, F.C.S.
- "The Estimation of Tannic Acid." By J. WATTS, B. Sc.
- "Observations on Extractum Carnis (Liebig)." By THOS. T. P. BRUCE WARREN.
- "Combinations of Quinine and Iodine." By T. T. P. B. WARREN.
- "Results of Electrical Examination of Commercial Samples of Olive Oil." By T. T. P. B. WARREN.
- "Report on the Purity of Commercial Chlorinated Lime." By W. L. SCOTT, F.C.S.
- "Note on Sulphur Pastilles." By W. L. SCOTT, F.C.S.

THIRD SITTING.

On Thursday, August 20th, after the transaction of formal business, Mr. Brady brought forward a resolution to the effect that the Committee should be empowered to elect foreign members. The resolution was adopted, and the names of several eminent pharmacologists in Europe and the United States were added to the list of members. The discussion on the

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was then resumed, Mr. Carteigho acting as the interpreter of ambiguous passages. A large number of copies of the CHEMIST AND DRUGGIST for August, containing the Act, had been distributed among the members, who were consequently enabled to cite the letter of the law. The most important fact elicited in the discussion was that the opinion

of counsel had been taken as to the nature of the three years' service which entitled an assistant to registration after passing a modified examination. The opinion expressed was to the effect that any assistant of full age at the passing of the Act who had been actually engaged in the dispensing and compounding of prescriptions for not less than three years, whether in the capacity of a paid assistant, or in that of an apprentice, would only be required to pass the modified examination to be registered as a "Chemist and Druggist."

FOURTH SITTING.

The concluding meeting was held on Tuesday, August 25, at 10 a.m. R. Fitch, Esq., Vice-President, F.S.A., F.G.S., Sheriff of Norwich, in the chair.

Proposed by Mr. Arnold (Norwich), seconded by Mr. King (Bath), and carried *nem. con.*:—

"That the meeting of the British Pharmaceutical Conference for 1869 be held at Exeter, concurrently with the meeting of the British Association for the Advancement of Science."

The following were balloted for, and unanimously elected officers of the Conference for the year 1868-9:—

President.

D. Hanbury, F.R.S., F.L.S., etc., Plough-court, London, E.C.

Vice-Presidents who have filled the office of President.

H. Deane, F.L.S., Clapham Common, S.

Professor Bentley, F.L.S., M.R.C.S., 17, Bloomsbury-square, London, W.C.

Vice-Presidents.

W. W. Stoddart, F.G.S., Bristol.

J. Ince, F.L.S., F.C.S., etc., London.

G. Cooper, Exeter.

H. S. Evans, F.C.S., London.

Treasurer.

H. B. Brady, F.L.S., F.C.S., Mosley-street, Newcastle-on-Tyne.

General Secretaries.

Professor Attfield, Ph.D., F.C.S., 17, Bloomsbury-square, London, W.C.

R. Reynolds, F.C.S., Commercial-street, Leeds.

Local Secretary.

Matthew Husband, 95, Fore-street, Exeter.

Committee.

J. H. Atherton, F.C.S., Nottingham.

J. C. Brough, F.C.S., Kensington.

A. J. Caley, Norwich.

M. Carteighe, F.C.S., London.

T. B. Groves, F.C.S., Weymouth.

J. Palk, Exeter.

R. Parkinson, Ph.D., Bradford.

G. F. Schacht, Clifton.

F. Sutton, F.C.S., Norwich.

Auditors.

E. Arnold, F.C.S., Norwich. | G. Cubitt, Norwich.

Professor ATTFIELD, on behalf of his brother officers, fellow-members in a distance, and himself, again thanked the Vice-President, Local Secretary, members of the Local Committee, and other Norwich members, for the cordiality and large-hearted hospitality with which they had been received. The meeting had been successful from all points of view: the papers had been good and numerous; the discussion on the Pharmacy Act most useful; the exhibition of pharmaceutical novelties highly interesting. For the first time, in the history of the Conference, local members had invited to their homes, for the whole week, some one or more visitors, treating them with an amount of liberality and friendliness which was scarcely preceded. There was not one of his brother members, from London and other towns, but had spoken in highly laudatory terms of the successful efforts of the Norwich members,—efforts which would render pleasantly memorable this 1868 meeting.

Mr. INCE, in eulogistic terms, spoke of the time and labour which must have been expended in making the arrangements which had been so successfully carried out by the local members. The days had been so pleasantly occupied that neither he nor Mrs. Ince had had opportunity to see one-half of the objects of interest in Norwich, and similar remarks had been made by most of his friends.

Mr. ARNOLD and the CHAIRMAN assured the visitors that the Norwich members had derived perhaps more pleasure and profit than they had conveyed, and hoped that future meetings of the Conference would be still more agreeable and useful than the present gathering.

EXHIBITION OF OBJECTS RELATING TO PHARMACY, HELD AT NORWICH, AUGUST, 1868.

OFFICIAL REPORT.

ATTFIELD, PROFESSOR, Ph.D., 17, Bloomsbury Square, London.

A set of brass metric decimal weights, as used in the pharmacies of France and other countries; a set of iron metric weights, as used by grocers; a draper's metre measure; a specimen of the jointed metre measure used by carpenters; a 10-metre measuring tape; a set of metric pewter measures, from the double litre to the centilitre; a set of wooden metric measures for seeds, etc., from a decalitre to a decilitre; a set of brass and platinum metric weights, and glass rough and fine metric measures, as used by analytical chemists in all civilised countries; medicine bottles for holding metric decimal quantities; several French prescriptions, illustrating the use of metric decimal weights and volumes.

An album of photographs of prominent members of the Conference.

BAILEY, WILLIAM, AND SON, Wolverhampton.

Sulphur pastilles.

BRITISH SEAWEED COMPANY (Limited), Glasgow.

Pure iodine, iodides of potassium, mercury and lead, bromide of potassium and lexiviated seaweed char. Specimens remarkable for large size and beauty.

BROUGH, J. C., Kensington.

Differential thermometer for experiments on specific heat. Products of the decomposition of narcotine, illustrating the recent researches of A. Matthiessen, F.R.S., and G. C. Foster, B.A. (see Paper).

BURROW, W. AND J., Malvern.

Patent metal racks (six in number) for storing mineral waters.

CALEY, A. J., Norwich.

A collection of the extracts of the British Pharmacopoeia, neatly arranged for exhibition in glass stoppered bottles; extract of beef made after the process of Liebig and Pettenkofer; concentrated meat tablets.

A Refrigerator.

[The novelty in construction consists in the ice being placed in the centre of the apparatus in a perforated zinc chamber, with receiver for water.]

A large quantity of aerated waters for the use of members.

CASELLA, Mr. L., Hatton-garden, London.

A standard mural yard-and-metre measure on glazed porcelain mounted in mahogany.

CHAPMAN AND Co., St. James's Mills, Hatcham, near London.

Entire wheat flour and powdered bran, for use in diabetes.

COLEMAN, W. J., AND Co., 13, St. Mary-at-Hill, London, and Bury St. Edmund's.

A large collection of drugs and chemicals manufactured by Messrs. Gehe and Co., Dresden. The collection includes a very large specimen of valerianate of quinine in magnificent crystals; beautiful specimens of the sulphates of cadmium, of cobalt and of manganese; of permanganate of potash in large quantities and finely crystallised; caffeine obtained from tea, a large specimen most beautifully crystallised; subnitrate of bismuth: acetate and muriate of morphia; tannic acid; acetate and nitrate of uranium; cubebine. Essential oils of mustard, patchouly, carraway, fennel, and sandalwood, also croton oil.



ANNO TRICESIMO PRIMO & TRICESIMO SECUNDO

VICTORIÆ REGINÆ.

CAP. CXXI.

An Act to Regulate the Sale of Poisons, and Alter and Amend the Pharmacy Act, 1852.

[31st July, 1868.]

WHEREAS it is expedient for the safety of the public that persons keeping open shop for the retailing, dispensing, or compounding of poisons, and persons known as Chemists and Druggists, should possess a competent practical knowledge of their business, and to that end, that from and after the day herein named all persons not already engaged in such business should, before commencing such business, be duly examined as to their practical knowledge, and that a register should be kept as herein provided, and also that the Act passed in the 15th and 16th years of the reign of her present Majesty, intituled An Act for Regulating the Qualification of Pharmaceutical Chemists, 15 & 16 Vict. c. 56, hereinafter described as the Pharmacy Act, should be amended; be it enacted by the Queen's Most Excellent Majesty, by and with the advice and consent of the Lord's Spiritual and Temporal, and Commons in this present Parliament assembled, and by authority of the same, as follows:

Persons selling or compounding Poisons, or assuming the title of Chemist and Druggist, to be qualified.

1. From and after the 31st day of December, 1868, it shall be unlawful for any person to sell or keep open shop for retailing, dispensing, or compounding poisons, or to assume or use the title of "Chemist and Druggist," or Chemist or Druggist, or Pharmacist, or Dispensing Chemist or Druggist in any part of Great Britain, unless such person shall be a Pharmaceutical Chemist, or a Chemist and Druggist within the meaning of this Act, and be registered under this Act, and conform to such regulations as to the keeping, dispensing, and selling of such poisons as may from time to time be prescribed by the Pharmaceutical Society with the consent of the Privy Council.

Articles named in Schedule (A.) to be deemed Poisons within the meaning of this Act.

2. The several articles named or described in the Schedule A shall be deemed to be Poisons within the meaning of this Act, and the Council of the Pharmaceutical Society of Great Britain (hereinafter referred to as the Pharmaceutical Society) may, from time to time, by resolution, declare that any article in such resolution named ought to be deemed a poison within the meaning of this Act; and thereupon the said Society shall submit the same for the approval of the Privy Council, and if such approval shall be given, then such resolution and approval shall be advertised in the "London Gazette," and on the expiration of one month from such advertisement, the article named in such resolution shall be deemed to be a poison within the meaning of this Act.

3. Chemists and Druggists within the meaning of this Act shall consist of all persons who, at any time before the passing of this Act, have carried on in Great Britain, the business of a Chemist and Druggist, in the keeping of open shop for the compounding of the prescriptions of duly qualified medical practitioners, also of all Assistants and Associates who, before the passing of this Act, shall have been duly registered under or according to the provisions of the Pharmacy Act, and also of all such persons as may be duly registered under this Act.

4. Any person who, at the time of the passing of this Act, shall be of full age, and shall produce to the Registrar, on or before the 31st day of December, 1868, certificates according to Schedule E to this Act, that he had been for a period of not less than three years, actually engaged and employed in the dispensing and compounding of prescriptions as an assistant to a Pharmaceutical Chemist, or to a Chemist and Druggist, as defined by clause 3 of this Act, shall, on passing such a modified examination as the Council of the Pharmaceutical Society, with the consent of the Privy Council, may declare to be sufficient evidence of his skill and competency to conduct the business of a Chemist and Druggist, be registered as a Chemist and Druggist under this Act.

5. The persons who at the time of the passing of this Act shall have been duly admitted Pharmaceutical Chemists, or shall be Chemists and Druggists within the meaning of the Act, shall be entitled to be registered under the Act without paying any fee for such registration: provided, however, as regards any such Chemist and Druggist, that his claim to be registered must be by notice in writing, signed by him, and given to the Registrar, with certificates according to the Schedules (C) and (D) to this Act; and provided also, that for any such Registration of a Chemist and Druggist, unless it be duly claimed by him on or before the thirty-first day of December, 1868, the person registered shall pay the same fee as persons admitted to the Register after examination under this Act.

6. All such persons as shall from time to time have been appointed to conduct examinations under the Pharmacy Act, shall be, and are hereby declared to be examiners for the purposes of this Act, and are hereby empowered and required to examine all such persons as shall tender themselves for examination under the provisions of this Act; and every person who shall have been examined by such examiners, and shall have obtained from them a certificate of competent skill, shall be entitled to be registered as a Chemist and Druggist under this Act; and the examination aforesaid shall be such as is provided under the Pharmacy Act for the purposes of a qualification to be registered as Assistant under that Act, or as the same may be varied from time to time by any Byelaw to be made in accordance with the Pharmacy Act as amended by this Act; provided that no person shall conduct any examination for the purposes of this Act until his appointment has been approved by the Privy Council; and such appointment and approval shall not in any case be in force for more

Chemists and Druggists within the meaning of this Act.

Assistants to be registered.

Registration of Chemists and Druggists.

Examiners under Pharmacy Act to be the Examiners under this Act.

Certificate of competent skill, &c.

than five years; moreover, it shall be the duty of the said Pharmaceutical Society to allow any officer appointed by the said Privy Council to be present during the progress of any examination held for the purposes of this Act.

Application of Fees to purpose of Pharmaceutical Society.

7. Upon every such examination and registration as aforesaid, such fees shall be payable as shall from time to time be fixed and determined by any Byelaw to be made in accordance with the Pharmacy Act as amended by this Act, and shall be paid to the treasurer of the said Society for the purposes of the said Society.

Registrar under Pharmacy Act to be so under this Act.

8. The Registrar appointed, or to be appointed, under or by virtue of the Pharmacy Act, shall be Registrar for the purposes of this Act.

Council of Pharmaceutical Society to make Orders for regulating Register to be kept.

9. The Council of the Pharmaceutical Society shall, with all convenient speed after the passing of this Act, and from time to time as occasion may require, make orders or regulations for regulating the Register to be kept under this Act, as nearly as conveniently may be in accordance with the form set forth in the Schedule (B.) to this Act or to the like effect, and such Register shall be called the Register of Chemists and Druggists.

Duty of Registrar to make and keep Register.

10. It shall be the duty of the Registrar to make and keep a correct Register, in accordance with the provisions of this Act, of all persons who shall be entitled to be registered under this Act, and to erase the names of all registered persons who shall have died, and from time to time to make the necessary alterations in the addresses of the persons registered under this Act: to enable the Registrar duly to fulfil the duties imposed upon him, it shall be lawful for the Registrar to write a letter to any registered person, addressed to him according to his address on the Register, to inquire whether he has ceased to carry on business, or has changed his residence, such letter to be forwarded by post as a registered letter, according to the Post Office Regulations for the time being, and if no answer shall be returned to such letter within the period of six months from the sending of the letter, a second, of similar purport, shall be sent in like manner, and if no answer be given thereto within three months from the date thereof, it shall be lawful to erase the name of such person from the Register: provided always, that the same may be restored by direction of the Council of the Pharmaceutical Society, should they think fit to make an order to that effect.

Notice of Death of Pharmaceutical Chemist or Chemist and Druggist to be given by Registrars.

11. Every Registrar of Deaths in Great Britain, on receiving notice of the death of any Pharmaceutical Chemist, or Chemist and Druggist, shall forthwith transmit by post to the Registrar under the Pharmacy Act a Certificate under his own hand of such death, with the particulars of the time and place of death, and on the receipt of such certificate the said Registrar under the Pharmacy Act shall erase the name of such deceased Pharmaceutical Chemist, or Chemist and Druggist, from the Register, and shall transmit to the said Registrar of Deaths the cost of such Certificate and Transmission, and may charge the cost thereof as an expense of his office.

Evidence of Qualification to be given before Registration.

12. No name shall be entered in the Register, except of persons authorised by this Act to be registered, nor unless the Registrar be satisfied by the proper evidence that the person

claiming is entitled to be registered; and any appeal from the decision of the Registrar may be decided by the Council of the Pharmaceutical Society; and any entry which shall be proved to the satisfaction of such Council to have been fraudulently or incorrectly made may be erased from or amended in the Register by Order in Writing of such Council.

13. The Registrar shall, in the month of January in every year, cause to be printed, published, and sold, a correct Register of the names of all Pharmaceutical Chemists, and a correct Register of all persons registered as Chemists and Druggists, and in such Registers respectively the names shall be in alphabetical order according to the surnames, with the respective residences, in the form set forth in Schedule (B) to this Act, or to the like effect, of all persons appearing on the Register of Pharmaceutical Chemists, and on the Register of Chemists and Druggists, on the 31st day of December last preceding, and such printed Registers shall be called "The Registers of Pharmaceutical Chemists and Chemists and Druggists," and a printed copy of such Registers for the time being, purporting to be so printed and published as aforesaid, or any certificate under the hand of the said Registrar, and countersigned by the President or two members of the Council of the Pharmaceutical Society, shall be evidence in all Courts, and before all Justices of the Peace and others, that the persons therein specified are registered according to the provisions of the Pharmacy Act, or of this Act, as the case may be, and the absence of the name of any person from such printed Register shall be evidence, until the contrary shall be made to appear, that such person is not registered according to the provisions of the Pharmacy Act, or of this Act.

Annual Register to be published and be Evidence.

14. Any Registrar who shall wilfully make, or cause to be made, any falsification in any matter relating to the said Registers, and any person who shall wilfully procure, or attempt to procure, himself to be registered under the Pharmacy Act, or under this Act, by making or producing, or causing to be made or produced, any false or fraudulent representation or declaration, either verbally or in writing, and any person aiding or assisting him therein, shall be deemed guilty of a misdemeanor in England, and in Scotland of a crime or offence punishable by fine or imprisonment, and shall on conviction thereof be sentenced to be imprisoned for any term not exceeding twelve months.

Penalty for wilful Falsification of Register, or for obtaining Registration by false Representation.

15. From and after the 31st day of December, 1868, any person who shall sell or keep an open shop for the retailing, dispensing, or compounding poisons, or who shall take, use, or exhibit the name or title of Chemist and Druggist, not being a duly registered Pharmaceutical Chemist, or Chemist and Druggist, or who shall take, use, or exhibit the name or title Pharmaceutical Chemist, Pharmacist, or Pharmacist, not being a Pharmaceutical Chemist, or shall fail to conform with any regulation as to the keeping or selling of poisons made in pursuance of this Act, or who shall compound any medicines of the British Pharmacopœia, except according to the formularies of the said Pharmacopœia, shall for every

Protection of Titles, and Restrictions on Sale of Poisons.

such offence be liable to pay a penalty or sum of £5, and the same may be sued for, recovered, and dealt with in the manner provided by the Pharmacy Act for the recovery of penalties under that Act; but nothing in this Act contained shall prevent any person from being liable to any other penalty, damages, or punishment to which he would have been subject if this Act had not passed.

Reserving
Rights of
certain
Persons.

16. Nothing hereinbefore contained shall extend to or interfere with the business of any legally qualified Apothecary or of any Member of the Royal College of Veterinary Surgeons of Great Britain, nor with the making or dealing in patent medicines, nor with the business of wholesale dealers in supplying poisons in the ordinary course of wholesale dealing; and upon the decease of any Pharmaceutical Chemist or Chemist and Druggist actually in business at the time of his death, it shall be lawful for any executor, administrator, or trustee of the estate of such Pharmaceutical Chemist or Chemist and Druggist to continue such business if and so long only as such business shall be *bona fide* conducted by a duly qualified Assistant, and a duly qualified Assistant within the meaning of this clause shall be a Pharmaceutical Chemist or a Chemist and Druggist registered by the Registrar under the Pharmacy Act or this Act. Provided always, that Registration under this Act shall not entitle any person so registered to practise medicine or surgery, or any branch of medicine or surgery.

Regulations
to be ob-
served in
the Sale of
Poisons.

17. It shall be unlawful to sell any poison, either by wholesale or by retail, unless the box, bottle, vessel, wrapper, or cover in which such poison is contained be distinctly labelled with the name of the article and the word poison, and with the name and address of the seller of the poison; and it shall be unlawful to sell any poison of those which are in the first part of Schedule (A.) to this Act, or may hereafter be added thereto under Section Two of this Act, to any person unknown to the seller, unless introduced by some person known to the seller; and on every sale of any such article the seller shall, before delivery, make or cause to be made an entry in a book to be kept for that purpose stating, in the form set forth in Schedule (F.) to this Act, the date of the sale, the name and address of the purchaser, the name and quantity of the article sold, and the purpose for which it is stated by the purchaser to be required, to which entry the signature of the purchaser and of the person, if any, who introduced him shall be affixed; and any person selling poison otherwise than is herein provided shall, upon a summary conviction before two Justices of the Peace in England or the Sheriff in Scotland, be liable to a penalty not exceeding £5 for the first offence, and to a penalty not exceeding £10 for the second or any subsequent offence, and for the purposes of this section the person on whose behalf any sale is made by any apprentice or servant shall be deemed to be the seller; but the provisions of this Section, which are solely applicable to poisons in the first part of the Schedule (A.) to this Act, or which require that the label shall contain the name and address of the seller, shall not apply to articles to be ex-

ported from Great Britain by wholesale dealers, nor to sales by wholesale to retail dealers in the ordinary course of wholesale dealing, nor shall any of the provisions of this section apply to any medicine supplied by a legally qualified Apothecary to his patient, nor apply to any article when forming part of the ingredients of any medicine dispensed by a person registered under this Act; provided such medicine be labelled in the manner aforesaid, with the name and address of the seller, and the ingredients thereof be entered, with the name of the person to whom it is sold or delivered, in a book to be kept by the seller for that purpose, and nothing in this Act contained shall repeal or affect any of the provisions of an Act of the session holden in the fourteenth and fifteenth years in the reign of her present Majesty, intituled An Act to Regulate the Sale of Arsenic.

18. Every person who at the time of the passing of this Act is or has been in business on his own account as a Chemist and Druggist as aforesaid, and who shall be registered as a Chemist and Druggist, shall be eligible to be elected and continue a member of the Pharmaceutical Society according to the byelaws thereof; but no person shall, in right of membership acquired pursuant to this clause, be placed on the Register of Pharmaceutical Chemists, nor, save as is hereinafter expressly provided, be eligible for election to the Council of the Pharmaceutical Society.

Chemists
and Drug-
gists in busi-
ness prior to
passing of
Act eligible
for election
as Members
of Pharma-
ceutical
Society.

19. Every person who is or has been in business on his own account as a Chemist and Druggist as aforesaid at the time of the passing of this Act, and who shall become a member of the Pharmaceutical Society, shall be eligible for election to the Council of the Pharmaceutical Society; but the said Council shall not at any time contain more than seven members who are not on the Register of Pharmaceutical Chemists.

Council of
Pharmaceu-
tical Society.

20. Every person who shall have been registered as a Chemist and Druggist under this Act by reason of having obtained a certificate of qualification from the Board of Examiners shall be eligible to be elected an Associate of the Pharmaceutical Society, and every such person so elected and continuing as such Associate, being in business on his own account, shall have the privilege of attending all meetings of the said Society and of voting thereat, and otherwise taking part in the proceedings of such meetings, in the same manner as members of the said Society: provided always that such Associates contribute to the funds of the said Society the same fees or subscriptions as members contribute for the time being under the byelaws thereof.

Chemists
and Drug-
gists regis-
tered
eligible to
be elected
Associates,
and, being
in business,
have the
privilege of
voting in the
Society, on
paying the
same sub-
scriptions as
Members.

21. At all meetings of the Pharmaceutical Society at which votes shall be given for the election of officers, all or any of the votes may be given either personally or by voting papers, in a form to be defined in the byelaws of the said Society, or in a form to the like effect, such voting papers being transmitted under cover to the secretary not less than one clear day prior to the day on which the election is to take place.

Voting
papers for
election of
Council.

22. And whereas, by the Charter of Incorporation of the said Pharmaceutical Society, it is provided that the Council of the said Society shall have the sole control and management of the real and

Benevolent
Fund may be
applied to
past Mem-
bers and

Associates,
also to Pharm-
aceutical
Chemists
and regis-
tered Chem-
ists and
Druggists.

personal property of the said Society, subject to the byelaws thereof, and shall make provision thereout, or out of such part thereof as they shall think proper, for the relief of the distressed members or Associates of the said Society, and their widows and orphans, subject to the regulations and byelaws of the said society: and whereas, for extending the benefits which have resulted from the said provision in the said Charter of Incorporation, it is desirable that additional power should be granted to the said Council: be it enacted, That from and after the passing of this Act the said Council may make provision out of the real and personal property aforesaid, and out of any special fund known as the Benevolent Fund, not only for the relief of the distressed members or Associates of the said Society and their widows and orphans, subject to the said regulations and byelaws, but also for all persons who may have been and have ceased to be members or Associates of the said Society, or who may be or have been duly registered as "Pharmaceutical Chemists" or "Chemists and Druggists," and the widows and orphans of such persons, subject to the regulations and byelaws of the said Society.

Registration under "Medical Act." 23. Persons registered under "The Medical Act" shall not be or continue to be registered under this Act.

Adulteration of Food or Drink Act to extend to Medicines. 24. The provisions of the Act of the twenty-third and twenty-fourth of Victoria, chapter eighty-four, intituled An Act for preventing the Adulteration of Articles of Food or Drink, shall, extend to all articles usually taken or sold as medicines, and every adulteration of any such article shall be deemed an admixture injurious to health; and any person registered under this Act who sells any such article adulterated shall unless the contrary be proved, be deemed to have knowledge of such adulteration.

Acts of Privy Council. 25. On and after the passing of this Act all powers vested by the Pharmacy Act in one of Her Majesty's Principal Secretaries of State shall be vested in the Privy Council, and the seventh section of the Public Health Act, 1858, shall apply to all proceedings and Acts of the Privy Council herein authorized.

Power to Privy Council to erase Names of Persons from Register. 26. The Privy Council may direct the name of any person who is convicted of any offence against this Act which in their opinion renders him unfit to be on the Register under this Act to be erased from such Register, and it shall be the duty of the Registrar to erase the same accordingly.

Extent of Act. 27. This Act shall not extend to Ireland.

Short Title. 28. This Act may be cited as the Pharmacy Act, 1868.

SCHEDULE (A.)

PART 1.

Arsenic and its preparations.

Prussic Acid.

Cyanides of Potassium and all metallic Cyanides.

Strychnine and all poisonous vegetable Alkaloids and their Salts.

Aconite and its preparations.

Emetic Tartar.

Corrosive Sublimate.

Cantharides.

Savin and its oil.

Ergot of Rye and its preparations.

PART 2.

Oxalic Acid.

Chloroform.

Belladonna and its preparations.

Essential Oil of Almonds, unless deprived of its Prussic Acid.

Opium and all preparations of Opium or of Poppies.

SCHEDULE (B.)

Name.	Residence.	Qualifications.
A. B.	Oxford Street, London.	In Business prior to Pharmacy Act, 1868.
C. D.	George Street, Edinburgh	Examined and certified.
E. F.	Cheapside, London.	Assistant prior to Pharmacy Act, 1868.

SCHEDULE (C.)

DECLARATION BY A PERSON WHO WAS IN BUSINESS AS A CHEMIST AND DRUGGIST IN GREAT BRITAIN BEFORE THE PHARMACY ACT, 1868.

To the Registrar of the Pharmaceutical Society of Great Britain.

I, _____, residing at _____, in the county of _____, hereby declare that I was in business as a Chemist and Druggist, in the keeping of open shop for the compounding of the prescriptions of duly qualified Medical Practitioners at _____, in the county of _____ on or before the _____ day of _____, 1868.

Signed (Name.) _____

Dated this _____ day of _____, 1868.

SCHEDULE (D.)

DECLARATION TO BE SIGNED BY A DULY QUALIFIED MEDICAL PRACTITIONER, OR MAGISTRATE, RESPECTING A PERSON WHO WAS IN BUSINESS AS A CHEMIST AND DRUGGIST IN GREAT BRITAIN BEFORE THE PHARMACY ACT, 1868.

To the Registrar of the Pharmaceutical Society of Great Britain.

I, _____, residing at _____, in the county of _____, hereby declare that I am a duly qualified Medical Practitioner [or Magistrate], and that to my knowledge _____, residing at _____, in the county of _____, was in business as a Chemist and Druggist, in the keeping of open shop for the compounding of the prescriptions of duly qualified Medical Practitioners before the _____ day of _____, 1868.

(Signed) _____

SCHEDULE (E.)

DECLARATIONS TO BE SIGNED BY AND ON BEHALF OF ANY ASSISTANT CLAIMING TO BE REGISTERED UNDER THE PHARMACY ACT, 1868.

To the Registrar of the Pharmaceutical Society of Great Britain.

I hereby declare that the undersigned _____, residing at _____, in the county of _____, had for three years immediately before the passing of the Pharmacy Act, 1868, been employed in dispensing and compounding prescriptions as an Assistant to a Pharmaceutical Chemist or Chemist and Druggist, and attained the age of twenty-one years.

As witness my hand, this _____ day of _____, 1868.

A. B., duly qualified Medical Practitioner.

C. D., Pharmaceutical Chemist.

E. F., Chemist and Druggist.

G. H., Magistrate.

(To be signed by one of the four parties named.)

I hereby declare that I was an Assistant to _____, in the county of _____, in the year _____, and was for three years immediately before the passing of this Act actually engaged in dispensing and compounding prescriptions, and that I had attained the full age of twenty-one years at the time of the passing of the Pharmacy Act, 1868.

N. O., Assistant.

SCHEDULE (F.)

Date.	Name of Purchaser.	Name and Quantity of Poison sold.	Purpose for which it is required.	Signature of Purchaser.	Signature of Person introducing Purchaser.

Extracts of opium, aloes, cinchona, and nux vomica. These were in a novel form, the extracts being completely dry and in small regular pieces about an eighth of an inch in diameter. Extract of malt also in small pieces, prepared according to Liebig's formula. Extract of alkali as a thick semifluid substance, used for colouring oil, etc.

Cut roots, as those of gentian and sarsaparilla, the latter in very even transverse slices of about 1-10th of an inch in thickness. Decorticated roots of calamus aromaticus, marshmallow, and orris. Powder ipecacuanha in two forms, one powder being that of the entire root, the other consisting of the cortical portion only. Pure gutta-percha prepared by solution in chloroform, bleaching and rolling into sticks, and used chiefly for stopping teeth.

Liebig's extract of meat manufactured in Australia.

Various preparations of it, as biscuits, lozenges, soups, jelly and extract of meat, coffee, and cocoa.

Mustard seeds and mustard of various kinds manufactured therefrom.

Russian and Brazilian isinglass, both in the crude state and cut for use.

DOULTON AND CO., London.

Stoneware stills, receivers, percolators, evaporating dishes, funnels, etc., adapted for chemical and pharmaceutical operations. Crucibles of various kinds, earthen furnace.

EVANS, LESCHER, AND EVANS, London and Liverpool.

Patent valvular tap for filling accurately measured doses of medicine into membranous envelopes or capsules of Savarasse.

[The operation of this little invention is very simple. The lever of a three-way tap opens a communication between the reservoir and a hollow cylinder of required capacity in which a plunger is made to work air-tight; by means of a connecting link, the continued upward action of the lever elevates the plunger, drawing with it the fluid to be measured: the height to which this plunger can be raised is determined by a set screw, and this regulates the quantity to be measured.

The downward action of the lever first opens a way between the cylinder and the exit, and its continued action depresses the plunger, forcing out the measured quantity. The continued upward and downward motion of the lever thus drawing at each action accurately uniform quantities.

The invention is applicable to a variety of uses.]

EWEN, JAMES, 17, Garlick Hill, London.

Clarified lard, clarified marrow, and clarified suet; benzoated lard; purified olive oil, purified trotter oil, and benzoated trotter oil.

GROVES, T. B., Weymouth.

Cynanchum bitter, cathartate of ammonia, senna resin and extractive; liquor senna (see Paper). Granular effervescent phosphate of potash; Ol. sambuci; liquor opii sedativus.

HANNURY, D., Plough Court, Lombard Street, London.

Calumba root of fine quality, obtained from roots grown in Mauritius, and sliced and dried in England; fresh calumba roots from the Botanical Garden, Trinidad, West Indies; jalap (sliced and dried) grown at Ootacamund, near Madras, from roots originally obtained from Mexico; stearoptene of attar of rose.

Copy of the "Pharmacopœia of India," edited by Dr. Waring, 1868, and of Ferreira's "Hydrologie Générale," Paris, 1867.

HARVEY, REYNOLDS, AND CO., Leeds.

Extractum carnis, from English beef. Dr. Clifford Allbutt's short clinical thermometer (self-registering). Dr. Edwyn Andrew's twin case for a pair of short chemical thermometers.

HEARON, SQUIRE, AND FRANCIS, Coleman Street, London.

Fine specimen of black wax imported from Madras (see "Pharm. Journ." July, 1868). Mass of Myrrh of unusual size.

Bael fruit, sumbul root, grey Cinchona bark from India, Tampico jalap, Vera Cruz jalap, Calabar beans, root of *Veratrum viride*; adulterated saffron, containing 20 per cent. chalk; cacao butter.

Benzoate and phosphato of ammonia, carbonate of bismuth, crystallised carbolic acid (pure).

Specimens of the preparations of the Brit. Pharm., namely:—

Charta epispastica; glycoriuses of carbolic, gallic, and tannic acids; flexible collodion; liniment of iodide of potassium; liquor bismuthi et ammon. cit.; lin. sinapis comp.; ext. of Calabar bean; ethereal ext. of mezereum; emp. plumb. iodid., emp. corati saponis; mist. sennæ comp.; tinct. sumbul, tinct. verat. viridis, liq. ferri perchlor.; vin. quinae, vin. ferri cit., vin. aurantii; benzoated lard; sodæ citro-tartras effervescentes.

HOWARDS AND SONS, Stratford, near London.

Hydrate of quinine, crystallised from Benzole; kinate, hydrobromate, chlorate and sulphate of quinine; sulphate and hydriodate of quinidine; sulphate, hydrobromate, hydriodate and chlorate of cinchonine. Potassium tartrate of soda and citric acid, both in exceedingly perfect crystals.

Bark of *Cinchona succirubra*, grown in India and imported in 1867.

[The hydriodates of quinidine and of cinchonine are crystallisable salts, and recommended for medicinal use in preference to the corresponding salt of quinine.]

INCE, JOSEPH, London.

Old engravings, portraits, manuscripts, and pamphlets, illustrating English pharmacy in the eighteenth century.

LAIRD, WILLIAM, Dundee.

Specimens of sweet spirit nitre, annatto, and white gutta percha, in illustrations of papers read.

MARTIN, F. R., Redland, Bristol.

An excellent collection of alkaloids and metallic salts, 66 in number. A large and interesting series of microscopic specimens.

MOTTERHEAD AND CO., Manchester.

Specimens of "torn," "purified," and "rolled" (white) gutta percha,—used for filling decayed teeth.

PROCTOR AND SON, Newcastle-on-Tyne.

Syphon medicine glasses for the use of adults and infants (see Paper).

REYNOLDS, —, Newcastle-on-Tyne.

Ingenious automatic apparatus for washing precipitates (see Communication by Mr. Brady).

ROGERS, CHARLES, Eye and Ear Hospital, Birmingham.

Contrivance to illustrate a new method of tying over and securing corks and stoppers in bottles; a capsule to prevent accidental poisoning on the principle of arresting the attention of the person using the bottle. Box of jewellery powder.

SCHACHT, G. F., Clifton.

Australian bismuth ore.

[This ore is highly cuprous, and is probably the source of the cuprous metallic bismuth that has of late been frequently found in commerce.]

Crystallised metallic bismuth, a fine specimen. Liquor bismuthi.

SILVERLOCK, H., London.

Specimens of labels specially adapted for poisonous substances, some of them tinted and of novel design.

SPENCER, Mr., Burnham Market, Norfolk.

English opium, a large mass weighing three pounds, collected at Burnham Westgate, Norfolk, by the late Sir Roger Martin.

STOCKER, A. S., Artillery-street, Horsleydown.

Improved feeding bottle.

SUTTON, FRANCIS, Norwich.

Various glass retorts, test tubes, flasks, beakers, and other glass apparatus employed for general chemical purposes.

A complete collection of graduated instruments for volumetric analysis, including some very elegant stoppered burettes and pipettes with revolving stands.

Standard volumetric solutions of the British Pharmacopœia.

TOMLINSON, MATTHEW, Hulme, Manchester.

Specie jar 24 inches high, with glass cover and mahogany stand; glass panelled soda water stand with ornamental plate-glass top.

VAN ABBOTT, GEORGE, London.

Foods and wines specially suited for invalids; food for infants.

WILSON, B. O. AND G. C., Boston, U.S.

Compressed and dried medicinal herbs in small packets. These specimens are remarkable for their good colour and fragrance. They include peppermint, spearmint, pennyroyal, horchound, tansy, feverfew, wormwood, wintergreen, raspberry leaves, flowers of *Sambucus canadensis*, sage, summer savory, etc.

YATES, JAMES, F.R.S., Highgate.

Measures and weights illustrating the metric system, together with books, pamphlets, and a chart bearing on the subject. The collection includes a metallic half-metre, very finely graduated, and sent for exhibition at the Norwich Meeting of the British Association by the makers, Messrs. Darliug, Brown and Sharpe, Providence, Rhode Island.

Male flowers, fruits and leaf of *Cycas revoluta*, and coloured drawings of the plant.

DINNER.

On the evening of Tuesday, August 18th, a complimentary dinner was given to the visitors at the Royal Hotel by the members residing in Norwich and the neighbourhood. The chair was occupied by Mr. R. FITCH, F.G.S., F.S.A., Sheriff of Norwich, and Vice-President of the Conference, while the vice-chair was filled by Mr. CURRIE, the oldest chemist of the city. The company included most of the officers of the Conference, the Vice-President and Secretary of the Pharmaceutical Society, the delegates from the various provincial chemists' associations, and all the Norwich members. The entertainment was a grand demonstration of hospitality and liberality. After dinner, the usual loyal and patriotic toasts were gracefully proposed by the Chairman, and duly honoured by the company. The next toast, "Success to the British Pharmaceutical Conference," was introduced by an effective speech from the chair, in which the objects of the Conference were warmly commended. In acknowledging the toast, Mr. Hanbury likened the Conference to a swarm of locusts, but admitted that its descent upon a town had never been regarded by the inhabitants as a calamity. He referred to the meeting in Dundee, which he had looked forward to with dread, but which he now remembered with satisfaction. Even in that remote town, the Conference had been warmly received, and even there its power to elevate the pharmaceutical calling and to induce harmonious action had been manifested. The reception of the Conference by the Norwich chemists had not surprised him, as he knew that the old city contained many earnest labourers in the cause of pharmaceutical progress. The next toast, "Success to the Pharmaceutical Society," was ably proposed by the Vice-Chairman, and responded to by Mr. H. S. Evans, the Vice-President of the Society. Mr. J. E. Smith proposed the "Officers of the Conference," and the toast was acknowledged by Mr. Brady and Professor Attfield. The "Health of the Local Secretary," when proposed by Mr. Reynolds, was most enthusiastically received by the resident and non-resident members. In responding, Mr. Sutton gracefully alluded to the great assistance he had received from Mr. Caley and other members of the Local Committee. The toast of "Pharmaceutical Literature" gave Mr. Ince an opportunity of saying many kind things about a member of the press present. The health of the Chairman was proposed by Mr. Hanbury, and duly acknowledged.

Those who have attended any of the social sittings of the Conference need not be informed that certain communications in verse were well received. Mr. Brough brought forward a case of mistaken identity which had never been satisfactorily explained. He also communicated some facts connected with the history of a distinguished naval officer. Mr. Schacht forgot his Liquor Bismuthi in dilating on the tonic and stimulant properties of a preparation somewhat resembling *Mistura Spiritus Vini Gallici, B.P.* Professor Attfield referred to an incident in the life of Henry VIII. that is not even mentioned by Frode. These communications, with others of the same character from Norwich members, helped to make this social gathering a memorable one.

NOTES ON THE PHARMACEUTICAL EXHIBITION AT NORWICH.

BY COUNTERSIGN.

WHILE the *sanctum sanctorum* of the St. Andrew's Lecture Hall at Norwich was devoted to the discussion of scientific papers, an additional element of interest was offered, at least to those visitors who were not disposed to "sulk the shop," by the admirably arranged exhibition of drugs, chemicals, apparatus, and sundries, which occupied the outer room. In the belief which we hold, that it is to a great extent from such exhibitions as these that we may look for the development of practical pharmacy, and in the hope that some of our readers may derive a little benefit from the new ideas which we picked up on that occasion, we reproduce in a connected form the few memoranda we made on this occasion. We may as well remark at the outset that we have only one complaint to make with reference to this show, and that is, that it was too small. It was supported, as will be seen, by many of our best firms, and as far as it went was a perfect representation of the trade. But surely an occasion of this kind, which offers to manufacturers and inventors so excellent an opportunity for bringing their goods before the very *élite* of the trade, must be of great value to them, and we cannot help thinking they would more readily recognise this fact if a price for space were demanded, somewhere correspondent to its value. The local committees may pipe, but these gentlemen will not dance very vigorously unless they can see that something beside fun is likely to result from their exertions. We submit this consideration to the notice of the men of Exeter, and support our suggestion by quoting the old maxim, more practical than grammatical, "Don't never do nothing for nothing for nobody."

To proceed with our report. By far the most prominent exhibitors, and for this reason they deserve the first remark, were Messrs. W. J. Coleman and Co. These gentlemen act as the English agents for Messrs. Gehe and Co., of Dresden, and, as is far more generally known, as the importers of the extract of meat made by Mr. Tooth, of Sydney. Messrs. Coleman have followed up Liebig's discovery with singular energy and success, by the preparation of many convenient forms in which this extract may be taken, and which show how great is its value for others beside the invalid. There can be no doubt that as the public come to appreciate this value, extract of meat will rapidly become an article of still greater commercial importance than it is at present; and it is only an act of policy on the part of chemists throughout the country to make their stock as prominent as possible, in order to "educate" the public from the commencement, into the acceptance of the fact, that extract of meat is, as it certainly should be, essentially a druggist's article. The writer makes no great profession to be an epicure, but he can report the great success of an experimental banquet which was held not long ago by a certain well-known newspaper staff, and which was founded entirely upon Messrs. Coleman's extract of meat in its various forms. Of course the chief dishes were soups, and it is no small compliment to the excellence of these to remark that the visitors seemed well satisfied to linger over them, to the exclusion of the remaining delicacies. We hope to take another opportunity of describing a few of the foreign pharmaceutical specialities which Messrs. Coleman are introducing from the Fatherland, as some of these promise to become very desirable acquisitions to English Pharmacy. For example, every chemist would appreciate the convenience of a liquid extract of alkanet root, and dispensers have often sighed for a reformation in the preparation of medicinal extracts when they have

been required to coax a pill mass out of a compound of two of these, which might be represented by a mixture of mud and flint. Certainly if the system which this German firm follows in a great number of instances of preparing extracts in a granular form, and of such a consistence that they can at once be rubbed to powder, can be carried out without detriment to their medicinal properties, it must possess many advantages as regards preservation, cleanliness, accuracy in weighing, and convenience in manipulation.

Messrs. Hearon, Squire, and Francis sent a selection of illustrations of the British Pharmacopœia, and that these were models of pharmaceutical preparations will be at once inferred by those who know the skill and experience of Mr. Francis in the laboratory. Among a few interesting specimens which this firm also exhibited, may be noted a sample of grey cinchona bark, drawn from the first cargo which has reached England from our Himalayan plantations. The great success which has attended the introduction of these barks into India, is a subject of national or rather of universal congratulation.

The transition to Messrs. Howards and Sons is natural, and it gave us much pleasure to find these gentlemen still as careful about the minute details of chemical manufacture as though they had their reputation still to make. "To paint the lily, or adorn the rose," says Shakespeare, would be "a wasteful and ridiculous excess," and were we to eulogise Messrs. Howards' chemicals we might lay ourselves open to a similar charge. Besides an excellent collection of the bark alkaloids, this firm exhibited two very beautiful specimens of crystals,—citric acid and tartrate of soda—and we simply echo the remark of every chemist who examined them, when we describe the crystallisation of these as perfection.

Among the chief exhibitors of chemical and pharmaceutical products, we must mention the British Seaweed Co., whose fine specimens of iodine and its salts received much attention and admiration. The sea-weed char introduced by this company is admitted to be a more effective absorbent, deodoriser, and decolouriser than animal charcoal, yet its price is only about £2 per ton.

Mr. Schacht, of Clifton, whose name is associated with the best pharmaceutical preparation of bismuth, exhibited specimens of the pure metal, side by side, with samples of commercial bismuth contaminated with copper.

A pretty case of rare chemical products was contributed by Mr. J. C. Brough, F.C.S., who deserves the thanks of chemical students for a still further increase to their perplexities, by introducing to their notice another half-dozen of opium alkaloids. An important feature of the exhibition was a magnificent collection of burettes, measuring flasks, and other graduated instruments employed in volumetric analysis, contributed by Mr. F. Sutton, F.C.S., who has taught British chemists to send to Norwich for the accurately gauged instruments of the Continent.

After a few minutes interval for refreshment, in the form of an extract of meat biscuit and a draught of Mr. Caley's delicious lemonade, we proceeded to examine the remainder of the show, which consisted of a variety of sundries. First, by our side, stood six of Messrs. Burrow's soda water racks, and it was only necessary to notice one of these filled with bottles to see how the most unwieldy portion of a druggist's stock might be arranged in a very small compass and at the same time in a manner the best adapted to preserve the waters unimpaired and the bottles from breakage. Mr. Tomlinson's specie jar was much admired for its symmetrical shape and for the artistic manner in which the design upon it was executed. Messrs. Harvey and Reynolds, of

Leeds, showed some new clinical thermometers, very sensitive, and we should imagine very useful for surgeons to carry about with them. This firm was also represented by some of their well-established *extractum carnis*, made from the aristocratic English ox.

Next we tried the sulphur cure, and inflicted the same upon several gentlemen around us by burning one of Messrs. Bailey and Son's pastilles. These burn with remarkable steadiness, without any spluttering, and are evidently very carefully made. They thus offer an excellent means for testing the value of the sulphur treatment in the cases for which it has been so energetically recommended by Dr. Dewar and others. Messrs. Evans and Lescher exhibited their patent valvular tap, by which they fill capsules with accuracy, rapidity, and cleanliness. Possibly the principle of this apparatus might be adapted to the manufacture of a useful oil reservoir for the shop, and if not too expensive would be very acceptable. We make Messrs. Evans and Co. a present of the suggestion. Messrs. Doulton and Watts also condescended to seek the favour of pharmacutists, by the exhibition of a large variety of stone-ware apparatus for laboratory use.

Two novelties for babies complete our list, and we must congratulate these important little beings on the fact that inventors and scientific men have lately become so solicitous for their welfare and comfort. A new and happy era has certainly dawned both for them and for their nurses, if a dose of castor oil or Gregory's powder can be safely smuggled into their stomachs while they sleep. These startling feats have been frequently accomplished in at least one case by the use of a neat-looking little apparatus introduced by Mr. Proctor, of Newcastle, consisting of an accurately graduated glass measure, with a boxwood cork, through which a bent glass tube, fitted with a teat, passes to the bottom of the glass. Through this, it is said, children will instinctively suck any liquid, without showing too much curiosity about its nature. This is certainly a step in the right direction, and we predict that syphon medicine glasses will be saleable so long as babies and physic exist, and remain incompatible. "The" Feeding Bottle is another application of genius to this inexhaustible subject. "The" point which characterised this one we found to lie in the muzzle where a very simple, but apparently a very effectual, provision seems to have been made to provide for the prevention of leakage. A german silver screw-cap is fitted on to the neck of the bottle, and inside this is an india-rubber disc pierced by a few leech bites. These are forced open every time the infant sucks through the tube, thus allowing free circulation of air, but at other times they are imperiously closed. There is something decidedly novel in this invention, and it will be certain to find many admirers.

Corner for Students.

The chemical formulæ employed in this section are based upon the new system of atomic weights, unless the use of the older system is specially indicated. In the *British Pharmacopœia* the symbols corresponding to those adopted here are printed in heavy Clarendon type.

PRIZES.

THE First Prize offered for solutions of the Problems given in our August number, has been awarded to

G. WELBORN, Grantham Dispensary.

The Second Prize has been awarded to

J. W. EVANS, Bridgend, Glamorganshire,

the student who has taken the *nom de plume* of "Struggler."

This month we again offer as prizes two scientific books to be selected by the successful competitors from the lists printed at the end of our notices to correspondents.

QUESTIONS.

PHARMACEUTICAL CHEMISTRY.

I. *AQUA DESTILLATA, B.P.*—What impurities are excluded by the official tests?

II. *ACIDUM NITRICUM, B.P.*—How many grains of pure caustic potash, KHO , are required for the neutralisation of 1 fl. oz. of the official nitric acid? How many grains of potassic nitrate are produced by the reaction?

GENERAL CHEMISTRY.

III. *PRECIPITATION OF COPPER.*—Find the weights of ferrous sulphide, FeS , and of hydrochloric acid, HCl , in grammes, required for the production of sufficient sulphuretted hydrogen to precipitate 396.9 grammes of cupric sulphate, CuSO_4 .—*G. W.*

IV. *NITRIC OXIDE.*—Represent by a symbolic equation the production of nitric oxide, NO , from nitric acid and copper, and find the weights of acid and metal required for the preparation of 10 grammes of this gas.

V. *WEIGHT OF A LITRE OF GAS.*—Required, the weight, in grammes, of a litre of each of the following gases at the standard temperature and pressure: Ammonia, Chlorine, Ethylene, Hydrogen, Nitrous oxide. [See Data below.]

VI. *VOLUME OF A KILOGRAMME OF GAS.*—Required the volume, in litres, of a kilogramme of each of the following gases, at the standard temperature and pressure: Carbonic anhydride, Carbonic oxide, Oxygen, Sulphurous anhydride. [See Data below.]

VII. *COMBUSTION OF ETHYLENE.*—How many litres of oxygen are needed for the complete combustion of a litre of ethylene or olefiant gas? How many litres of carbonic anhydride are formed? [See Data below.]

SPECIFIC GRAVITY.

VIII. *FLOATING CYLINDER.*—A uniform cylinder when floating with its axis vertical in distilled water sinks to a depth of 3.2 inches; and when floating in alcohol, to a depth of 4 inches. Find the sp. gr. of the alcohol.

IX. *METAL.*—A lump of metal weighs 59 oz. in water, and 61 oz. in alcohol of sp. gr. .8. Find its weight and sp. gr.

X. *WEIGHT HANGING IN WATER.*—Suppose a pound weight of a substance, twice as specifically heavy as water, to be hung into the water contained in a vessel standing on a table, by a string not attached to the vessel; what would be the increase of pressure on the table?

DATA.

MOLECULAR WEIGHTS AND VOLUMES.—As we explained in our June number, page 356, the atomic weights of the elementary gases represent the weights of equal volumes under the same conditions of temperature and pressure. Thus the relative weights of equal measures of hydrogen, chlorine, oxygen, and nitrogen, are respectively 1, 35.5, 16, and 14. These numbers may be regarded as the numbers of grammes required to yield the definite volume of 11.19 litres at the standard temperature of 0°C . (32°Fahr.), and under the standard barometric pressure of 760 millimetres (29.9 inches.) We may now state that the molecular weights of most compound gases also indicate the relative weights of equal volumes measured at the same temperature and pressure. The volume corresponding to the molecular weight of a compound is, however, twice as great as the volume corresponding to the atomic weight of an element; thus 16 grammes of marsh gas ($\text{CH}_4 = 16$) will occupy the double-volume of 22.38 litres, while 16 grammes of oxygen will occupy the single-volume of 11.19 litres. In calculations relating to gases, a knowledge of the law of volumes is of immense importance. We subjoin a few illustrations:—

1 vol. Grammes.

H	or	1	Hydrogen	=	} 11.19 litres.
Cl	„	35.5	Chlorine	=	
O	„	16	Oxygen	=	
N	„	14	Nitrogen	=	

2 vols.

Grammes.

HCl	or	36.5	Hydrochloric acid	=	} 22.38 litres.
H_2S	„	34	Sulphuretted hydrogen	=	
NH_3	„	17	Ammonia	=	
CH_4	„	16	Marsh-gas	=	
C_2H_4	„	28	Ethylene	=	
CO	„	28	Carbonic oxide	=	
CO_2	„	44	Carbonic anhydride	=	}
N_2O	„	44	Nitrous oxide	=	
SO_2	„	64	Sulphurous anhydride	=	}

At elevated temperatures, condensable vapours are comparable to the permanent gases: thus, 32 grammes of sulphur vapour ($\text{S} = 32$) will occupy the space that 16 grammes of oxygen would occupy at the same temperature. Again, under similar conditions, 46 grammes of alcohol vapour ($\text{C}_2\text{H}_6\text{O} = 46$) and 44 grammes of carbonic anhydride have equal volumes. When we give problems relating to the effects of temperature and pressure, we will explain the volumetric relations of gases and vapours under varying conditions.

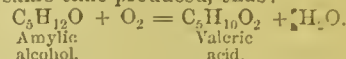
ANSWERS.

[See Questions in August number, page 485.]

PHARMACEUTICAL CHEMISTRY.

I. *MAGNESIÆ SULPHAS, B.P.*—The precipitate *a* consists of baric sulphate BaSO_4 ; the precipitate *b*, of ordinary ammonio-magnesian phosphate, $\text{NH}_4\text{MgPO}_4 \cdot 6\text{H}_2\text{O}$.

II. *ALCOHOL AMYLICUM, B.P.*—By oxidation, amyl alcohol is converted into valeric or valerianic acid, water being at the same time produced, thus:



The aldehyde *valeral*, $\text{C}_5\text{H}_{10}\text{O}$, is an intermediate product of the reaction.

III. *LOTIONES HYDRARGYRI, B.P.*—The weight of HgCl_2 prescribed for the yellow lotion is 18 grains, which represents 13.284 gr. of mercury; for

$$\begin{array}{r} \text{HgCl}_2 \quad \text{Hg} \\ 271 : 18 :: 200 : x; \\ \therefore x = 13.284 \text{ grains.} \end{array}$$

The weight of HgCl prescribed for the black lotion is 30 gr., and this represents 25.478 gr. of mercury; for

$$\begin{array}{r} \text{HgCl} \quad \text{Hg} \\ 235.5 : 30 :: 200 : x; \\ \therefore x = 25.478 \text{ grains.} \end{array}$$

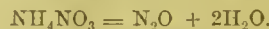
GENERAL CHEMISTRY.

IV. *HYDROCHLORIC ACID AND ARGENTIC NITRATE.*—The weight of HCl required for the precipitation of one pound of AgNO_3 is 1502.941 grains.

One molecule of argentic nitrate, $\text{AgNO}_3 = 170$, requires one molecule of hydrochloric acid, $\text{HCl} = 36.5$, for the precipitation of the silver as chloride; accordingly, we have the proportion

$$170 : 7000 :: 36.5 : x; \therefore x = 1502.941 \text{ grains.}$$

V. *DECOMPOSITION OF AMMONIC NITRATE.*—When ammonic nitrate is exposed to heat, it is resolved into nitrous oxide (laughing gas) and water, in accordance with the equation



Since a molecule of ammonic nitrate furnishes a molecule of nitrous oxide, 80 grammes of the former will furnish two standard volumes = 22.38 litres of the latter. The volume of gas obtained from 1 kilogramme of the salt may accordingly be found by the proportion

$$\begin{array}{r} 80 : 1000 :: 22.38 : x; \\ \therefore x = 279.75 \text{ litres.} \end{array}$$

VI. *SYNTHESIS OF WATER.*—The weight lost by the cupric oxide will be 4.289 grammes.

22.38 litres of hydrogen (the volume of 2 grammes) will combine with 16 grammes of oxygen to form water, then

$$22.38 : 6 :: 16 : x; \therefore x = 4.289.$$

Accordingly, 6 litres of hydrogen will combine with 4.289 grammes of oxygen, and this weight of oxygen represents the weight lost by the cupric oxide.

VII. *EXAMINATION FOR METALS.*—The metal indicated in solution A is silver. The solubility of the precipitated argentic chloride distinguishes it from mercurous chloride or

plumbic chloride. The metal indicated in solution B is cadmium, as it alone forms a yellow sulphide, which is insoluble in sulphide of ammonium. The metal indicated in solution C is manganese, as no other metal is precipitated as a flesh-coloured sulphide.

SPECIFIC GRAVITY.

VIII. BEES'-WAX.—The specific gravity of the bees'-wax, according to the data, is .965.

The wax weighs 2895 grains, the crystal of quartz 795 grains; therefore, their combined weights = 3690 grains. But when immersed in water, they weigh together only 390 grains; hence 3300 grains is the weight lost on immersion, or, in other words, the weight of the water displaced by the two bodies. The loss of weight due to the quartz is found by dividing its weight in air by its specific gravity: $\frac{795}{2.65} = 300$ grains. The loss of weight due to the bees'-wax is, therefore, $3300 - 300 = 3000$ grains,

$$\therefore \frac{2895}{3000} = .965, \text{ sp. gr. of bees'-wax.}$$

IX. MINERAL IN FRAGMENTS.—The specific gravity of the mineral is 4.818.

The fragments weighing 4216 grains occupy the space of two ounces, or 875 grains of water

$$\therefore \frac{4216}{875} = 4.818.$$

X. LIQUID.—The required specific gravity is .829.

When immersed in water, the body loses 700 grains of its weight, and when immersed in the second liquid, the same body loses 580 grains; and as the loss of weight in each case represents the weight of the liquid displaced, the specific gravity of the unknown liquid is

$$\frac{580}{700} = .829.$$

TO CORRESPONDENTS.

All questions forwarded to us for publication in this "Corner for Students" should be accompanied by the answers which the propounders believe to be correct. As a rule, numerical results should be worked out to three decimal places. Communications should reach us at least ten days before the date of publication, and include the names and addresses of the writers.

J. A. Kendall.—In adopting Pownce's formula to the modern atomic weights, you have overlooked the fact that the weight of the molecule of water has been doubled.

J. Trebarno.—Your solutions of V. and VI. do not give the required results. Referring to the data in our June number, you will find that our standard temperature for gases is 0°C. (32° Fahr.), and that we adopt Williamson's "absolute volume" of 11.19 litres as the basis of calculation.

G. Welborn.—The weight of mercury in each lotion obviously corresponds to the weight of mercury in the salt prescribed for the preparation, and your elaborate calculation has led to an erroneous result in the case of the black lotion. We thank you for your question, but would advise you to work out the answer again, as the decimal fractions are not quite correct.

G. Paulin.—Your chemical formulae need revision. By your solution of X, you have arrived at the paradoxical conclusion that a body when immersed in water weighs less than when immersed in a denser medium.

T. W. L.—The precipitated double phosphate referred to in I. contains water of crystallisation. Your solution of VIII. involves an arithmetical error. Fresenius's *Analysis* (2 vols. Churchill 25s.) is undoubtedly the best work, but any one of the treatises named in our list of prize books would probably answer your purpose. The publication of our articles on notation has been delayed by the appearance of the Pharmacy Act. We hope to print the second article in our next.

A. Nicholls.—Some of your solutions are unnecessarily complex, and two of those relating to specific gravity involve fundamental errors. The commendable neatness of your papers saves us much trouble.

W. B. J.—Your chemistry is more often at fault than your mathematics. We would advise you to study a good modern work, such as that of Eliot and Storer.

S. Hamby.—In IV. you have adopted the obsolete pound of 5760 grains. B. D. Williams.—The result you have obtained in V. is the volume of a kilogramme of nitrous oxide, not the volume obtainable from a kilo. of the salt. Pray continue to work in our corner.

Struggler.—The supposed error you have pointed out was not an error: the value of x in the proportion referred to, when worked out to four decimal places is 1173.2173, and this result is obviously better represented by 1173.218 than by 1173.217. We always work out results to four or five decimal places to insure the correctness of the third decimal figure. In two or three cases this month your results ought to have been increased by .001.

O. Pegler.—Though we have not been able to award you many marks this month, we trust you will continue to send us solutions. You have evidently mistaken the meaning of our second problem. In the result obtained for IV. you have misplaced the decimal point. The results obtained for V. and VI. are incorrect. All your solutions are unnecessarily elaborate.

J. W. B.—We shall be delighted to have your name on our roll of students. The few mistakes in your solutions are mistakes of computation.

A. Z. L.—In VIII. you have stuck at an imaginary difficulty, as the weight of the quartz alone in water is, as you suppose, 495 grains: that

the total weight in water is less than this is a necessary consequence of the fact that wax is specifically lighter than water. For answers to your questions see "Notes and Queries."

W. Greig.—In awarding marks we have to consider methods of calculation as well as results obtained. Referring to the July problems, your solution of II. involved several unnecessary operations. We have no fault to find with your solution of III., but an extra mark was given to Mr. Moss for an ingenious method of solving this problem by simple division. In your solution of V. you missed an obvious short cut to the required result. In VI. you failed to take full advantage of the simple relation between weight and volume, and needlessly determined the weight of the compound in order to ascertain its volume. Be assured that we take the the greatest pains to arrange competitors in the order of merit. Your solutions of the August problems, which arrived very late, show two noteworthy errors. The formula of the precipitated ammonio-magnesian phosphate is minus the 6 molecules of combined water. The result obtained in V. is the volume of a kilo. of nitrous oxide which is not what we required.

A. Fraser.—In VI. you have inserted the proportion and obtained an erroneous result. In X you have mistaken weight for loss of weight. In other respects your solutions are quite satisfactory.

Marks Awarded for Answers.

	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	Total
G. Welborn (1st prize)	5	5	2	5	8	8	7	5	3	4	52
Struggler (2nd prize)	3	5	4	5	7	8	7	5	3	4	51
J. Trebarno ..	5	6	4	5	5	8	5	8	3	4	50
J. A. Kendall ..	3	5	4	5	8	8	4	5	3	4	49
J. D. D. Thomas	5	5	4	5	8	8	7	0	3	4	49
W. X. Y. ..	3	5	4	5	8	8	4	5	3	4	49
J. W. B. ..	5	5	4	5	8	8	7	5	3	4	48
Auditor ..	2	6	4	5	8	8	7	0	3	4	47
T. W. L. ..	3	5	4	5	8	8	7	0	3	4	47
J. Paulin ..	2	2	4	5	8	8	8	5	3	0	45
W. Greig ..	3	5	4	5	8	8	7	5	3	4	44
A. Nicholls ..	3	5	4	5	8	8	8	0	3	0	44
W. B. J. ..	3	2	4	5	2	8	7	5	3	4	43
A. Fraser ..	5	6	4	5	7	0	7	5	3	0	42
J. Gregory ..	3	2	4	5	8	8	4	5	3	0	42
B. D. Williams	5	5	4	5	0	8	7	5	3	0	42
S. Hamby ..	3	—	4	2	7	5	7	5	3	4	40
O. Pegler ..	3	5	0	0	0	6	8	5	3	4	34
H. Habgood ..	—	—	2	5	—	8	—	5	3	4	27
G. Patterson ..	2	0	4	5	0	0	4	5	3	4	27
A. E. I. ..	3	—	4	—	—	—	2	0	3	4	16
P. W. ..	0	2	—	—	—	—	7	2	—	4	15
W. H. P. ..	—	5	—	—	—	—	2	—	—	—	7

Books offered as First Prizes.

- Atfield's *Introduction to Pharmaceutical Chemistry*. (Van Voorst.)
 Conington's *Handbook of Chemical Analysis*; with Tables of Qualitative Analysis adapted to the same. (Longmans.)
 Eliot and Storer's *Manual of Inorganic Chemistry*. (Van Voorst.)
 Ganot and Atkinson's *Elementary Treatise on Physics*. (Longmans.)
 Garrod's *Material Medica*; with Modern Chemical Notation. (Watten.)
 Nord's *Chemical Analysis, Qualitative and Quantitative*. (Reeve.)
 Northcote and Church's *Qualitative Analysis*. (Van Voorst.)
 Royle and Headland's *Material Medica*. (Churchill.)
 [Any other scientific book that is published at a price not greatly exceeding half-a-guinea may be taken as a first prize.]

Books offered as Second Prizes.

- Church's *Laboratory Guide for Students in Agricultural Chemistry*. (Van Voorst.)
 Galloway's *First Step in Chemistry*. (Churchill.)
 Hofmann's *Introduction to Modern Chemistry*. (Watten.)
 Oliver's *Lessons in Elementary Botany*. (Macmillan.)
 Potts's *Elements of Euclid*. School Edition. (Longmans.)
 Rose's *Lessons in Elementary Chemistry*. (Macmillan.)
 Wurtz's *Introduction to Chemical Philosophy*. Reprinted from the "Chemical News."

[Any other scientific book which is sold for about five shillings may be taken as a second prize.]



MATHER'S IMPROVED INFANT'S FEEDING BOTTLE.

A CAPPED bottle fitted with a flexible tube may not seem to offer much scope for invention, yet new forms of this simple arrangement for supplying infants with food come before us very often. The feeding-bottle we have now to notice is undoubtedly an excellent one. The cap is formed of earthenware, and the piece connecting the teat and flexible tube is made of the same material. The glass tube which descends to the bottom of the bottle is fitted with Dolby's Patent Valve for regulating the flow of the food. In the two-and-sixpenny bottle, the valve-piece is



formed of sterling silver, and is fitted to the tube by grinding without the interposition of cement. In the eighteenpenny bottle, this valve-piece is formed of pure tin, which, like silver, is not affected by milk, and is in many respects preferable to the leaden valve-pieces hitherto employed. Thick or thin food may be used with this valve-bottle without changing the teat, and the regular and easy action of the valve leaves nothing to be desired. The different parts of this apparatus are fitted with the greatest care, and the bottle itself is of the best form.

PROCTOR'S SYPHON MEDICINE GLASS.

WE have received from Mr. Proctor one of his new medicine glasses adapted for adults' use. These glasses were described in a communication to the British Pharmaceutical Conference, an abstract of which will be found on another page. Those intended for adults' use are adapted more especially for medicines which are very nauseous, oily or acid, and such as have a strong and disagreeable odour. The graduated glass is of a very convenient shape; the bent glass tube is very stout, and its ends have been rounded by fusion; the cover



through which the tube passes is formed of cork capped with boxwood.

BEWLEY, HAMILTON, & CO.'S PEPSINE BISCUITS.

THESE biscuits, each containing five grains of pepsine, may be recommended as the most eligible and agreeable form in which pepsine has been hitherto exhibited. They resemble ordinary plain wine biscuits, and might be eaten as such without exciting the suspicion that they contained an important remedy.



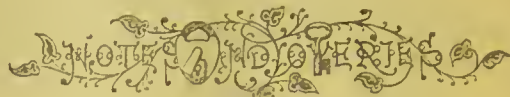
Silverlock's Pharmaceutical Chemists' Sale of Poisons Register Book. London: H. Silverlock.

The Poison Book, as required by the Sale of Poisons and Pharmacy Act Amendment. Birmingham: White and Pike.

From two well-known label-printing houses we have received books intended for the registration of sales of poisons in conformity with the Pharmacy Act, 1868. In Silverlock's book each page is divided by strong black lines into five sections, each of which is divided by faint lines into spaces headed respectively, "Date," "Name of Purchaser," "Name of Poison sold," "Quantity," "Purpose for which it is required," "Signature of Purchaser," "Signature of Person introducing Purchaser." The form adopted is so remarkably clear that the possibility of making a mistake in registering a sale is scarcely conceivable. By the division of the page into separate forms subdivided by faint lines, the entries relating to each sale are brought close together on one page, whereas in the book which we shall presently notice the entries relating to a single sale occupy one line extending across two pages. Silverlock's book is prefaced by Clause 17 of the Pharmacy Act, 1868, which prescribes the regulations to be observed in the sale of poisons, together with Schedule A, which contains the list of poisons.

The book introduced by White and Pike gives separate columns headed "Date," "Name of Purchaser," "Name and Quantity of Poison sold," "Purpose for which it is required," "Signature of Purchaser," "Signature of Person introducing Purchaser." There are three columns on each

page, and as we have already intimated, the entries relating to a single sale occupy one line extending across the two opposite pages. Though we much prefer the form adopted by Silverlock to this columnar arrangement, we cannot say that we prefer Silverlock's book to that produced by the Birmingham firm. The prefatory matter in the latter comprises a complete copy of the Pharmacy Act, 1868, with Schedule A, and also a carefully compiled list of poisons, in which are enumerated the principal preparations required to be registered before sale. This list will prove most useful to apprentices and assistants who may not be familiar with the names of the various preparations of arsenic, aconite, and ergot of rye, and those of the metallic cyanides and the poisonous vegetable alkaloids.



PHARMACY ACT 1868.—*An Apprentice, K.*—In our answer to *W. L. H.* last month, a line was accidentally omitted in copying, and an erroneous impression was consequently conveyed. The answer should have been: "All who are now apprentices will have to pass an examination before commencing business on their own account, or acting as assistants to executors or trustees." Nothing in the Act prevents a chemist and druggist employing an unqualified assistant. *A. F. I.*—You must make your application and send in your certificates during the present year; but you need not present yourself for examination so soon. *One in the Trade*—1. According to counsel's opinion, a person of full age at the time of the passing of the Act, who has been engaged for not less than three years in compounding and dispensing prescriptions as an Assistant or Apprentice to a Pharmaceutical chemist, or a chemist and druggist, is entitled to be registered, on passing a modified examination. 2. Members of the United Society of Chemists and Druggists will have to be registered under the Act. *Thomas March*.—1. Drugs not named in the Schedule can be sold by any person. 2. The preparations of opium are referred to in the schedule. The preparations of emetic tartar are not referred to, but we believe that they would be held to be poisons within the meaning of the Act. *Davy, Yates, and Routledge*.—As we construe the Act, the assistants of wholesale firms who do not keep open shops for compounding prescriptions will have to pass the ordinary examination before commencing business on their own account as retail chemists. They need not be registered while they continue assistants. *T. W. Smith*.—The members of the Pharmaceutical Society, to whom you refer are already registered as Pharmaceutical Chemists, and need not be registered again. *Joseph Taylor*.—We advise you to submit your case to the Registrar, Mr. Brembridge, 17, Bloomsbury Square. If your interpretation be (as we believe it is) correct, you will have to pass the minor examination. *L. R. J.*—See answer to "One in the Trade," above. *J. Fenny*.—The date of the first modified examination for assistants is not yet fixed. You had better send in your certificates at once. *A. B.*—You will be compelled to pass the minor before commencing business on your own account. If you remain an assistant you need not pass; but of course, examined men will be preferred to unexamined men by most principals. *J. Edmunds*.—As you have been in business on your own account, you are entitled to be registered, and registration gives you the right to conduct a chemist's business. *H. Chapman*.—1. The date of the passing of the Act, July 31, is the date at which age and service is considered; Dec. 31 is the date from which the law will be enforced. 2. An assistant coming of age between these two dates will have to pass the minor to be registered as a chemist and druggist. A person commencing business on his own account, between these two dates, will have to pass an examination. *P. C.*—Every registered chemist who at the time of the passing of the Act (July 31) was, or had been in business on his own account, is eligible to be elected a member of the Pharmaceutical Society (Clause 18). *An Anxious Inquirer*.—The Act does not affect persons engaged in the wholesale business. *An Old Subscriber*.—We believe the person in question is fairly entitled

to registration without submitting to an examination. *G. A.*—The Juries Clause was struck out of the Bill by the Legislature.

VINEGAR PLANT.—*C. W. K. T.* may obtain a plant from almost any vinegar cask after the vinegar has been drawn off in the usual way.—*J. T.*

ENAMELS.—*B. W.* wishes to know where he can best obtain enamels of various colours for gold and silver work, also the prices at which they can be supplied.

TELEGRAPH INSULATORS.—*S. C.* desires to know the best market for porcelain telegraph insulators for exportation.

QUININE WINE.—*J. A. B.* The quinine wine of the *B. P.* may be sold without a licence.

OVERSEERS.—*R. S.* We are not aware of any regulation exempting chemists and druggists from serving as overseers.

POTASSÆ BICARBONAS.—*A. E. I.* When a solution of this salt is long exposed to the air it loses one-fourth of its carbonic acid. (*Eliot and Storer.*) According to *Berthollet*, a definite sesqui-carbonate, obtainable in crystals, is produced thus,—

4KHCO_3 or $2\text{K}_2\text{O} \cdot 2\text{H}_2\text{O} \cdot 4\text{CO}_2 = 2\text{K}_2\text{O} \cdot \text{H}_2\text{O} \cdot 3\text{CO}_2 + \text{H}_2\text{O} + \text{CO}_2$
The existence of the compound $2\text{K}_2\text{O} \cdot \text{H}_2\text{O} \cdot 3\text{CO}_2$ does not appear to have been satisfactorily proved.

The proprietors of the *CHEMIST AND DRUGGIST JOURNAL* will be prepared early in December to supply a want which has been felt by every member of the trade throughout the world, by the publication of the

Chemists and Druggists' Almanack

AND

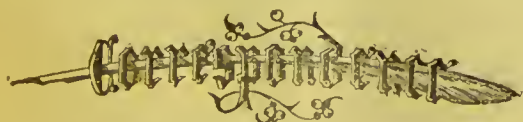
PHARMACEUTICAL TEXT-BOOK FOR 1869.

There is no class of business men to whom a work of this character is so essential as chemists. Daily, and in larger establishments, hourly, it is necessary in the course of business to make reference to some volume for technical information; and the great number of minute, though not the less important, variations which scientific investigations and the requirements of fashion make in the practice of pharmacy, will render an annual note-book of the utmost value.

The compilation of this work is entrusted to gentlemen of recognised commercial experience, ability, and scientific attainments, and the proprietors are confident that with the means at their command, they will be able to combine with all the general information of a first-class almanack, such an amount of practical and useful matter as shall secure for this text-book the approval of all those for whose use it is intended. Their object in making this preliminary announcement is chiefly in the hope of making the work as perfect as possible, to ask that any suggestions and information which may be considered desirable, may during the coming month be communicated to the publisher, and these will be received with thanks.

The *CHEMISTS AND DRUGGISTS' ALMANAC* will consist of 128 pages, crown octavo, bound in cloth, gilt lettered, and will be sold at 1s., free by post, 1s. 2d. A few pages will be set apart for advertisements at the following rates:—Whole page, £1; half-page, £2 10s.; quarter-page, £1 10s.

Those who wish to take advantage of this valuable opportunity will kindly communicate with the publisher as early as possible. Chemists are also requested to send their orders for the almanack at once.



THE DRUG TRADE—ITS FRIENDS AND FOES.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

SIR,—At the present moment very special attention is being drawn to our calling throughout the country, and as you have always been a fast and firm friend to the whole body of the trade, rather to any one class or section of it, possibly you may find space for a few lines on this subject. The passing of the new Pharmacy Act is raising, and will raise,

many and various questions *essentially affecting our interests*, and though the new Act is a decided gain to us on the whole, it is by no means complete as yet, and certain portions of it may be so carried out as to be made the means of oppression and tyranny. Difficulties must arise, and I feel assured that the whole body of chemists will still want friendly advocacy to save them from professed friends and from open foes. In some parts of the country, already, the new Act has called forth bitter attacks upon us, from a certain section of the medical profession. I am fully assured that these men do not represent the medical profession generally, nor any good or generous part of it, still it is useless to conceal the fact that we have bitter enemies connected with the medical profession, and we have still more dangerous foes within our own camp, amongst those men whom you, sir, have properly exposed, as having peculiar arrangements with certain medical men. I do not wish now to go into this question, I shall only refer to one aspect of it; and that is the relations in which these chemists stand to their fellows, and the course many of them may be expected to take. It is remarkable, however, that whilst we have just now been attacked in the public press by certain grades of medical men, as ignorant pretenders who have no right whatever to make up a worm powder, a diarrhoea mixture, or an aperient draught, without the intervention of a medical man, I say it is rather remarkable that a portion of our own press should come out with something very like censure upon us for all similar practices.

Perhaps, on this one point, though it is not the only one which will have to be canvassed, space may allow for a few remarks.

I suppose it is well known that, taking the business throughout the whole kingdom, at least three-fourths of the medicines consumed (perhaps it would be nearer the truth to say five-sixths of the medicines) are supplied without the intervention of any medical man whatever. Much the larger portion may be said to be simple medicines in constant demand by the public themselves; another large portion is prepared, or more or less recommended, by chemists themselves; other portions are prepared from private recipes, from prescriptions in family works on medicine, and from other similar sources. I think I shall not be far wrong in saying that not above one chemist in fifty could live if his business in dispensing was at once cut down to nothing but what was immediately ordered by a medical man. Now, the question already arises, are such men to be assailed from without and from within as ignorant pretenders, illegal dealers, and vile quacks. Whenever a medical man is not employed—and this is usually so in thousands of cases of the minor ailments of the human frame—the public will have their own remedies, and will ask us scores of questions respecting these medicines and their own complaints, and it would neither be our duty, *nor would it be possible*, to send these thousands of customers to any medical man whatever. Let it be fairly understood whether this is a legitimate branch of our profession, to supply such medicines or not? If I am asked by my customer to prepare a draught or sell him a cooling lotion, and I do this, am I to be denounced as an illegal trafficker? Or if I tell him an opiate draught will probably relieve some internal pain, must I be reproached as an ignorant quack? As one of the founders of the Pharmaceutical Society, I am well aware that it was not established to favour the special interests of any one section of the trade whatever, but for the defence and preservation of the rights and interests of the whole body of chemists, and for advancing their education and improving their status. I believe the new Act, if fairly carried out, is well calculated to do these things; but on some points it is defective at present, and is capable of being abused so as specially to favour the interests of a very small section of the trade.

I am, Sir, yours truly,

J. B.

“UNITED SOCIETY OF CHEMISTS AND DRUGGISTS.”

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

SIR,—I am informed that there is an impression abroad that those gentlemen (including myself) who have protested

against the legality of the proceedings of the so-called general meeting of the United Society of Chemists and Druggists are, or were desirous of making some other application of the Benevolent Fund of the Society than that named in the resolution which they opposed. I am unable to say from what source this impression has arisen, but I beg most emphatically to contradict it, as nothing could be further removed from the actual facts of the case.

The leading members of the late Executive were most anxious that the Benevolent Fund should be transferred to Mr. Buott, as is plainly shown by the fact that the amendment which they supported, was intended to carry out the transfer in a much more satisfactory manner than has been done by the resolution which was carried, inasmuch as it is still doubtful whether Mr. Buott can legally appropriate any portion of the Benevolent Fund to his own use. Had the donors' consent been obtained, Mr. Buott would then have legal possession of the Fund, and as wishing well to Mr. Buott, I would advise that that consent should even now be obtained.

In your impression of last month, there appears a declaration approving of the resolution in question, which declaration bears the signatures of a large number of members of the United Society. Of course these gentlemen have been informed of the whole of the circumstances connected with the case, more particularly of the important point omitted in the case submitted by Mr. C. F. Buott for the counsel's opinion alluded to in the resolution, and have not formed their opinion upon the very meagre report of the so-called general meeting which appeared in the CHEMIST AND DRUGGIST for July.

In any case, however, the appearance of this declaration is gratifying, as it shows that there is a general desire that the Fund should be transferred to Mr. Buott, by whatever means such transfer may be accomplished; and it also shows that Mr. Buott's energy is still equal to the task of communicating with a numerous constituency residing in all parts of the kingdom, and that therefore he would find no difficulty in canvassing (if necessary) those individuals possessing votes in the distribution of the Benevolent Fund.

Before concluding, I would correct an error which I inadvertently made in my letter of last month. The name of the firm of Solicitors mentioned by Mr. C. F. Buott, as obtaining Counsel's opinion for him, was Chamberlain and Terrell, not Chamberlayne and Turner, as I understood him to state on the occasion of his bringing the Counsel's opinion before the Executive Committee.

I am, Sir, yours &c.,

HENRY MATHEWS.

60, Gower-street, September 9, 1868.

HOFF'S MALT EXTRACT.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

SIR,—Referring to your notice of my Malt Extract, which appeared in your July number, allow me to remark that the sample was sent to you in the hope that you would analyse it, and present the results to your readers. I wished them to know on your authority that this was truly a chemical preparation. Its medicinal value I leave to be testified to by the recommendation of such eminent physicians as Dr. Sieveking, and a number of others, English and continental, whose names are published.

I am, sir,

Yours respectfully,

JOHANN HOFF.

Berlin, and 12, Oxford-street, London.

WORKING AN UNSOUND HORSE.—At the Birmingham police-court, on the 28th ult., Thomas Angus McLeod, chemist, Edinburgh, was charged with working a horse in an unfit condition. The horse, which had been put up at the Queen's Hotel, was found to be suffering from several sores, and prisoner informed the officer that he had hired the horse and trap from a person named Darn, cab proprietor, of Walsall, who was requested to come over. The magistrates reprimanded the cab proprietor, and fined him 40s. and costs, the charge against Mr. McLeod being dismissed.



THE PHARMACY ACT AND HOMŒOPATHIC CHEMISTS.

ON Tuesday evening last a meeting of homœopathic chemists and medical men was held to consider the position in which they had been placed by the passing of the Pharmacy Act last session. The meeting, which was convened by Dr. H. R. Madden, in the name of several of the leading homœopathic chemists, was held in the Board-room of the Homœopathic Hospital, Great Ormond-street.

Dr. POPE having been called to the chair, stated that Dr. Madden was unavoidably absent, but had sent a communication in which he stated that the questions to be discussed at the meeting were the sale of poisons and the qualifications of dispensing chemists. As regarded the sale of poisons, the introduction of the words "in poisonous quantities" into the several clauses of the Act would secure all that was needed, and it would be a decided advantage that strong poisons, such as aconite and nux vomica, should not be sold without the precautions required by the Act. As regarded the qualifications of dispensing chemists, he felt strongly that their present position was eminently unsatisfactory both to the profession and the public. It would be vastly better that all homœopathic chemists should have legal qualifications for their position, and he should be pleased to see such a step made compulsory. At the same time it was desirable that a longer period should be allowed for the chemists to qualify themselves, and he considered that they ought to undergo an examination in homœopathic pharmacy as well as in general pharmaceutical knowledge. He suggested that the various homœopathic societies should unite in appointing a board of examiners, whose certificates of efficiency should be considered a legal qualification in addition to the certificates required by the new Act. Letters were also read from various homœopathic chemists and physicians, containing suggestions for the purpose of placing homœopathy in a firmer and more recognised position in the medical world, especially by the formation of a homœopathic chemists' society.

The CHAIRMAN in opening the proceedings said that the intention of the framers of the Act was worthy of all praise, namely, to secure a well-educated and properly qualified class of persons to whom alone should be entrusted the sale of poisonous drugs, and also to restrict the sale of poisons used for improper purposes, especially those used for the purpose of procuring abortion. The framing of the clauses of the Act would, however, materially affect the dispensing of homœopathic medicines by placing them under vexatious restrictions. By the 17th clause it was enacted that a certain list of poisons named in the schedule should not be sold by any chemist unless the purchaser was known to the seller. The schedule in question contained various poisons which were largely used by homœopathics. He did not think that the suggestion made by Dr. Madden would meet the difficulty, because sabina and cantharides were not intended to be used in poisonous quantities, but for criminal purposes. He thought, therefore, that the best way to deal with the question was by fixing a definite quantity, such as the 100th part of a grain of arsenic or corrosive sublimate, or the 100th part of a drop of aconite, which it should be lawful to sell at one time. Another point they had to consider was the provision which rendered it necessary for dispensers of medicines to make up prescriptions according to the directions of the British Pharmacopœia.

In the discussion which followed, it was generally admitted that the Act was in no degree levelled at homœopathy, but it was pointed out that the clauses which referred to the sale of poisons, and especially to the making up of tinctures according to the British Pharmacopœia, would seriously affect if not altogether prohibit the sale of homœopathic medicines.

A great many suggestions were made of meeting the difficulty, such as a deputation to the Home Secretary on the subject, petitions to Parliament to alter the Act so far as it interfered with the practice of homœopathy, the

fixing of the quantity of poisonous drugs which might be sold, etc.

Eventually, on the motion of Mr. ENGALL, seconded by Dr. DRURY, it was agreed to appoint a committee, consisting of several eminent homœopathic doctors and chemists, including the names of Dr. Madden, Dr. Epps, Mr. J. Walker, Mr. Leatham, Mr. Ross, Mr. Gould, Mr. Turner, Dr. Drury, Dr. Pope, and Mr. E. Pope (as legal adviser), with power to add to their number, to watch the Pharmacy Act of 1868, and take such steps as might be necessary to preserve the rights of homœopathic chemists; and it was further agreed to refer to such committee the propriety of asking Mr. Hardy to receive a deputation on the subject.

The proceedings concluded with a vote of thanks to the chairman.

DINNER TO HENRY MATTHEWS, F.C.S.

On the evening of the 18th ult., a dinner was given at the Exeter Hall Hotel, Strand, to Henry Matthews, F.C.S., late President of the United Society of Chemists and Druggists, by the founders, and the retiring members of the late Executive Committee of that Institution. The chair was occupied by Mr. Pass, who after proposing the usual loyal toasts, gave "The Army, Navy, and Volunteers," coupling with the latter the name of Mr. Mellin, of Wimbledon.

Mr. MELLIN returned thanks on behalf of the volunteers, in a telling speech.

The CHAIRMAN: I now call upon you all to charge your glasses, to do honour to the next toast, and express to Mr. Henry Matthews your sense of obligation for his services, your admiration for him personally. I would that some one more eloquent had to discharge the duty; but whatever power is wanting in me in speech, my earnestness in acknowledging his urbanity and liberality cannot be surpassed. I look upon Mr. Matthews as the connecting link between the two Executives, and however useful he may have been to the founders of the Society, the last committee were under even greater obligation to him, because he supported them when the dissolution of the Society appeared imminent. It is very gratifying to me to be surrounded on this occasion by the oldest members of the Society, especially when all are united in the toast I now propose, "The Health of Henry Matthews, Esq."

Mr. MATTHEWS: I feel great diffidence in returning you thanks on this occasion, because if, as Mr. Pass has said, my services have been valuable to you, they were made so by the conviction that I should not have performed my duty if I had not rendered you every assistance at my command. My object has been, not to serve the Society, but to further the ends and objects for which it was instituted. (Hear, hear.) I have been accused of "destroying the Society;" but the only reply I gave was, "Perhaps I have." Greater evil than that has been laid to my charge, but, through all, I have endeavoured to act as my conscience advised. (Applause.) If I have made any self-sacrifice, it would ill become me to refer to it on such an occasion as this, when you have given me such a welcome, and proved to me that my services have been appreciated. Believe me, I thank you all very much for the manner in which you have drunk my health, and for your good wishes. (Cheers.)

The CHAIRMAN: The next toast that I have to propose is "The First Executive Committee of the United Society," coupling with it the names of the founders, Messrs. Wade and D'Aubney. I am pleased at having this opportunity to do justice to that body of gentlemen who laboured so hard, and worked so steadfastly for the good of the trade during the first years of the Society's existence, because when I first became a member, I was opposed to them, from want of better information, and I now most heartily recall my opposition, and renounce the error of my ways, since I have been able better to understand the trials and vexations they had to endure. I ask you then to join with me in drinking their healths. (Cheers.)

The VICE-CHAIRMAN (Mr. Wade): Mr. Chairman, when I recall to mind the exit of that body of gentlemen, whose healths you have now so cordially proposed, with their reception here this evening, and the honour you have done them, I must express surprise with the contrast. We left you defeated, disheartened in the cause; but we carried with us that inward sentiment which the President has avowed

this evening as his axiom—the conviction of having done what it was our duty to do. And more than ever am I convinced that men who thus work will have but to wait a time to find their reward. So it was; we never doubted but the day would come when it would be seen that we were in the right. That period has arrived, and the first committee rejoice to hear from the lips of their late opponents that now they are no longer at variance, and that there never was any cause for division to exist. It is gratifying to us to receive such a declaration from you. It is manly and honest in you to make it. But that which is better than all is to find that we who have looked upon each other as enemies, now meet as friends, having accomplished the object of our warfare. (Applause.) But, gentlemen, I cannot conclude my remarks without, in some measure, as one of the first Executive, offering our tribute to the guest of this evening. It was Mr. Matthews who redeemed the Society, not destroyed it. It was Mr. Matthews who gave it respectability when it was dragging in vulgarity. It was he who raised it when it was sunk to its lowest depth. It was he who, at a momentous period, when Mr. Alderman Dakin, having so many honours and duties thrust upon him, cast off his relationship with the trade, and left the Society to flounder without a helmsman, and with a mutinous crew, that Mr. Matthews proved a friend to the Society in the hour of need. If a word from the old Executive is wanting to endorse the eulogy of our Chairman this evening, it is to be found in the fact that, whilst differences of opinion existed upon almost every subject, no one ever thought of raising a doubt as to the honour that Henry Matthews did the Society by remaining its President, and giving his valuable time and services to our cause. It is a satisfaction to us, his old colleagues, after two years separation, to be able to join with you in wishing him every prosperity, and, on behalf of the old Executive, I thank you. (Cheers.)

Mr. D'AUBNEY: Well, gentlemen, in thanking you for the handsome manner in which you have drunk our healths this evening, I think it only right to let some of our friends here, who are, doubtless, quite ignorant of the origin of the Society, understand how it commenced. I quite endorse all that my friend, John Wade has said, and he will be able to corroborate the statement that the formation of this Society was first suggested in my parlour, and that in June, 1860, we took advantage of one of the first general issues of the CHEMIST AND DRUGGIST to lay a proposal before the trade. In the next month's number, my friend, Mr. Wade, replied, accepting the conditions, and from that time, other adherents appeared, and the affair progressed step by step, Mr. C. F. Buott acting as Secretary *pro tem.*, until the month of May, 1861, when he was officially installed. He it was who instructed his father to canvass London for members, and who by November, 1861, had succeeded in obtaining the names of six hundred members, and if we could only produce the minute book, which is nowhere to be found, we should find that it was not until the month of May, 1861, that Mr. Buott held any recognized position in the Society, and then he was appointed travelling agent on a small salary, with a commission on a certain number of members obtained. And while in that capacity, which he gladly accepted, he did his duty as well as any man could be expected. He worked with an enthusiasm which was surprising, as I have before declared often enough. I can honestly say that no personal feelings ever actuated me in my dealings with Mr. Buott, (hear, hear)—but maintain now, what I and the others fought for then, that instead of Mr. Buott expecting the Executive to consult his opinions and wishes, he ought to have obtained his instructions from his Executive. However, the Act is passed; and although I rejoice in the fact I am still much disappointed that greater liberality has not been shown towards assistants and apprentices. Gentlemen, I thank you. (Cheers.)

The VICE CHAIRMAN: It is with considerable pleasure that I rise to propose the next toast on the list, "The late Executive Committee," and I am competent to judge of the work they have performed, and desirous of giving them the credit that is due. There came a time, when the old Executive had not the courage—(no! no!)—well then the power or will to continue the storms and scandals which beset their attendance, and at this juncture the new Committee buckled on its armour and carried out, through evil and good report, the work that was left unfinished by the founders, and wo

know what work they have had to do. To Mr. Hornby, Mr. Betty, and others, is reserved the credit for contesting step by step the opposition raised to the amalgamation with the Pharmaceutical Society, and we have now to congratulate ourselves in obtaining that which we first attempted to gain. With this toast I beg to unite the names of Messrs. Anderson, Crotch, and Boere.

Mr. ANDERSON: Sir, I am overwhelmed with the sentiments just expressed, and really feel incompetent to do justice to so much generosity as Mr. Wade, with his usual enthusiasm, has exhibited. When I remember the treatment that the Wade and D'Aubney party received, I must say I did not expect such commendation from any one of them. Sir, the Executive is no more. The requiem has been sung over its dead carcase—(laughter)—but I should be deserting the post of duty if I allowed the sounds to fade away without bringing to notice the efforts, beyond description, of Mr. Betty, the leader of the last Executive. I will not detract in any way from the credit and praise belonging to the Wade and D'Aubney party, for as the pioneers and founders and early workers they deserve all that has been said in their favour. I rejoice to give it them, but I will not forget Mr. Betty's claims for having carried on the work where they left it. (Cheers.) Wade's party worked against the embankment of the Pharmaceutical Society when it stood in its full strength opposed to the tide of popular opinion, but Mr. Betty has led us into its paths. I claim no largess, sir, we are honourable men, and the first Executive deserve the thanks of the trade. The toast proposed by Mr. Wade with such good feeling, leaves me without an epithet suitable for the expression of my thanks. (Cheers.)

Mr. BEERE and Mr. CROCH briefly returned thanks.

Mr. BETTY: Mr. Chairman, I rise with great pleasure to propose the next toast, for I am certain it will be received by you all with enthusiastic concord. The future of the trade with the new Pharmacy Bill opens a large question which it would be utterly impossible for me to enter into now; but the work accomplished has been through the combination of certain men, and the result is anything but insignificant. The keystone of our policy was union. The very name of the United Society grated on the ears when we thought that another society existed. The amalgamation of all interests is the foundation on which you will build a brilliant future. Let our toast therefore be the union of the trade.

Mr. ANDERSON, in a few becoming words, presented to Mr. Matthews a small book containing a report of the conference between the two societies.

Mr. MATTHEWS: I receive it with gratitude, but like the old lady who acknowledged she had much to be thankful for, but thought a good deal of it was taken out in corners, I confess that in my case something has been taken out in speeches. Nevertheless I shall always look upon the little volume with pleasing remembrance.

Mr. CROCH then presented a similar memento to Mr. Pass, who acknowledged the compliment paid to him.

The VICE-CHAIRMAN: I must ask you to charge your glasses, for I am about to propose the health of one whose name will be well received, and success to the Journal which was the birth-place of our society and the memory of its early years. Praise has been given to the founders and to subsequent workers, but we ought not to forget a first cause existed which was the means of bringing the society into the world. Without the Journal we could not have created the combination, without an editor's support and encouragement we could not have prospered on, without the hurricane we produced. Let us then drink success to the CHEMIST AND DRUGGIST, and the health of its editor, who has not only exhibited talent but has used it with a liberal spirit and to a good purpose. (Cheers.)

The CHAIRMAN returned thanks for the gentleman referred to, whom he had known for many years.

Mr. D'AUBNEY: Gentlemen, we will not close this evening's festivities without expressing our sense of obligation to George Webb Sandford, Esq., President of the Pharmaceutical Society. In him we have a worthy representative indeed. But for him the Bill would still be on the shelf, and the least we can do in this our hour of enjoyment is to remember him who has been chief instrument in bringing it about.

The toast having been duly honoured the Chairman's health was given, and the company soon after separated.

CASES OF POISONING.

BY VERMIN POWDERS.

SINCE the publication of our last number, two fatal cases of poisoning by vermin powders have occurred, one at Bedminster, the other at Yoxall, near Rugeley, in Staffordshire.

At Bedminster, a widow named Mary Ann Grundy having died under suspicious circumstances, Mr. H. Wasbrough conducted an inquiry respecting the cause of death. A *post mortem* examination having been made, Dr. Herapath analysed the contents of deceased's stomach, and his investigation led to the inference that the woman had taken vermin powder mixed in cold water. He discovered crystals of strychnine, and there was a sufficient quantity of the powder in the woman's stomach to cause death. Although the woman was pregnant, no evidence was adduced to show that she either took the powder to procure abortion or to destroy life, therefore the verdict was an open one—that the deceased died from an overdose of strychnine. One of the jurors empanelled, produced a packet of Barber's Vermin Killer, and Dr. Herapath asserted that it contained three grains of strychnine; yet, as the jurymen observed, "it is stated, on the envelope in which it is sold, that the powder is not dangerous to human life or domestic animals."

The second case to which we have alluded, is that of a farmer's wife named Fanny Pearson, residing at Morrey, Yoxall, Staffordshire. The deceased was given to intoxication, and on the day of her death was not sober. She mixed the contents of a packet of Battle's vermin powder with some whey and drank it. An inquest was held on her body by Mr. W. Morgan on the 19th ult., when evidence was given by the husband of the deceased and his son, as to seeing her with the powder in her hand. Mr. C. G. Armsou, surgeon, said he was sent for to see the deceased, and found her suffering from tetanus produced by Battle's vermin killer. He administered an emetic, and she died asphyxiated in about five minutes afterwards.

BY COPPER.

A singular case of poisoning has recently taken place at Stafford. On the 21st ult. an inquest was held on the body of John Lawton, a shoemaker by trade, who had died on the 15th ult. from inflammation caused by an irritant poison. A *post mortem* examination having been made, deceased's stomach and bowels were sent, for analysis, to Dr. Alfred Hill, who detected copper to the extent of several grains. No evidence was shown how deceased had received the poison into his system, but it is supposed to have originated from sweetmeats in which deceased was very fond of indulging. It was not positively asserted that the copper was the cause of death, and the jury returned an open verdict—that the deceased died from inflammation.

BY NITRATE OF BARIUM.

According to the preamble of the Pharmacy Act, 1868, it is expedient, for the safety of the public, that persons keeping open shop for the retailing, dispensing, or compounding of poisons, and persons known as "chemists and druggists" should possess a competent practical knowledge of their business. The case to which we now call attention justifies this important declaration. A coroner's inquisition has recently taken place as to the death of Thomas Hicks, who resided at Stratford, Essex, and who died on Sunday the 26th of July. It appeared that the deceased had been in the service of Messrs. Volekman and Sons, confectioners, for nearly thirty years, and being subject to rheumatism, his landlady, Mrs. Smart, had given him a powder supposed to be milk of sulphur, which she had obtained from Mrs. Hill's, the keeper of a chemist's shop in High Street, Stratford. In the early part of the Sunday, deceased was found to be suffering from the effects of some irritant poison, supposed to be a salt of barium, and from which he undoubtedly died. As the deceased had lived in the house of Mrs. Smart, whose daughter was jointly entiled with the deceased to a considerable sum of money, some suspicion rose as to the cause of death. Mrs. Hill's persisted in her statement that she had no "baryta" in her shop. After a lengthened deliberation, the following special verdict was returned—"That the deceased, Thomas Hicks, died from the effects of

baryta accidentally sold, by Mrs. Hills to Mrs. Smart, as milk of sulphur. The jury are unanimously of opinion that Mrs. Smart is entirely exonerated from all blame, and that great carelessness existed on the part of Mrs. Hills." The coroner (Mr. C. Lewis) very severely admonished Mrs. Hills with respect to the statements she had made as to her possession of "green fire" or baryta, and expressed his firm conviction of her unfitness to keep a chemist's shop.

LAW AND POLICE.

PRACTISING AS SURGEON WITHOUT A CERTIFICATE.

At the Hales Owen Petty Sessions, on the 25th ult., Thomas Holland, of Oldbury, was charged before Sampson Hanbury, Esq., and Major Lea Smith, with having wilfully and falsely pretended to be, and taken the name of, surgeon by giving a "death certificate," signed "Thomas Holland, surgeon." This certificate was given on the 3rd of August, subsequent to the issuing of the summonses heard in the same court against Holland for illegally practising as a surgeon, as reported in our last number.—Mr. Holland pleaded guilty to the charge, and made an earnest appeal to the bench for the mitigation of the penalty.—A fine of £10 was inflicted with costs, the magistrates remarking that had the offence been committed subsequent to the previous convictions (11th ult.) the full penalty of £20 would have been enforced.

ACTION AGAINST CARRIERS—IMPORTANT CASE.

At the Manchester County-court, an action was brought by Professor Calvert, manufacturing chemist, of Manchester, against Messrs. Carver and Co., the well-known carriers, for the recovery of £21, compensation for damages which had been caused to certain goods whilst in transit under the charge of the defendants. Dr. Pankhurst appeared for the plaintiffs, and Mr. W. R. B. Cobbett for the defendants. Dr. Pankhurst, in opening the case, stated that on the 25th April Dr. Calvert purchased at the Bootle Works, near Liverpool, four vats. Three of them were lined with lead, and one consisted of wood entirely. The lead in one was a little loose, but the others were in good condition. The plaintiff gave instructions to a man in his employ to cause the vats to be sent per carrier to his works at Bradford, near Manchester. When the purchase was made, he was informed that the goods could be conveyed by canal direct from Bootle to his Works. The vats were given in charge of the defendants, and they were delivered at Bradford on the 28th of April. They were in the first instance brought to Dr. Calvert's Works, Bond-street, Manchester, and instead of being placed on the lorry mouth upwards, they were lying on their sides. Dr. Calvert, at this time, noticed the damaged condition of the vats, and he remonstrated with the carter as to the improper way in which they were being carried. When the vats arrived at Bradford the lead was entirely forced away from the wood. Plaintiff subsequently wrote to the defendants, complaining of the negligent way in which the vats had been carried, and asking them to send a man to inspect them, in order that the amount of damage might be estimated. A man was accordingly sent over to make the inspection, and on the 5th of May Dr. Calvert sent in the amount of his claim. In reply, the defendants wrote as follows:—"Upon full inquiry, we learn that the second-hand cisterns carried by us by boat from Liverpool, sustained no damage in the transit. In carting from senders' to our wharf, they were loaded by, and under your man's instructions. They were put on our floats on their edges. The lead being in a loose condition, caused the shifting and curling up. The cisterns were too wide to load flat. The police in Liverpool would not have allowed our lorry to have passed through the town. The lead should have been secured to the wood before the senders let them leave. All care was exercised by us. We must therefore decline any claim made for damage not done by the carriers." Dr. Calvert, his manager at the Bradford Works, and other witnesses were called to prove the damage which had been done to the vats. In defence, Mr. Cobbett said, that an important point had been omitted, inasmuch as there was no evidence as to the condition of the vats at the time they were put on board, in which point the learned judge con-

curred. They had no account of the goods since they were last seen by Dr. Calvert when he purchased them, and it would not be satisfactory for him to decide that a *prima facie* case had been made out in the absence of the evidence to which Mr. Cobbett referred. On the application of Dr. Pankhurst, the case was adjourned *sine die*, on payment by the plaintiff of the costs.

ACCIDENTS.

DEATH FROM THE EFFECTS OF CHLOROFORM.

An inquest was held at Blackburn, on the 28th ult., on the body of a man named Carter. It appeared from the evidence adduced, that the deceased was admitted into the Blackburn Infirmary on the 2nd of July. On the 26th ult., Mr. J. James Fraser, house surgeon of the Institution, put the deceased under the influence of chloroform, prior to performing an exceedingly painful operation. After the operation, deceased was seized with an intense fit of vomiting, and died in a few minutes. The case was deemed of sufficient importance for investigation; and Mr. Reginald Harrison, Lecturer on Anatomy at Liverpool, was instructed to make a *post-mortem* examination. In giving his evidence, this gentleman stated that the chloroform had been most skilfully and carefully administered, and exonerating the house surgeon from blame.—The jury returned a verdict that "deceased died from the effects of chloroform properly administered."

DEATH FROM AN OVERDOSE OF CORDIAL.

An inquest was held at Stafford, on the 21st ult., before Mr. Coroner Morgan, touching the death of Alice Vaughan, aged five months. It seems that the child had suffered from diarrhoea, and had been attended by Mr. Crawford, surgeon, unknown to whom, its mother had, on two occasions, given it a teaspoonful of a cordial which she had obtained from the shop of Mr. Allwood, chemist. Mr. Crawford, in giving his evidence, stated that he saw the deceased the last time on the evening preceding its death, when it was in a state of coma, quite insensible, and apparently under the influence of some narcotic. He gave it some diarrhoea mixture. The child was well nourished, and its parents appeared to be fond of it. After death he made an examination of its body, and found the usual symptoms of death from opium. In his opinion, the cause of death was an overdose of sedative. When administered, the deceased was weakened by continuous diarrhoea. All the quack cordials contained some preparation of opium; and it was on record that half a teaspoonful of Godfrey's cordial had proved fatal to a child. The practice of administering opiates to children was most mischievous and reprehensible. Mr. Allwood said the child's cordial he sold was similar in character to Godfrey's cordial, and contained eight drops of tincture of opium to the ounce. A teaspoonful would contain one drop of the tincture. He sold it in an ordinary way to anyone who chose to buy it. He considered it perfectly harmless to a healthy child. He did not sell a quarter of the quantity he did ten or fifteen years ago, but it was still commonly used. It was not uncommon for people to come to his shop with two bottles, one for the cordial and the other for laudanum, to make the cordial stronger than he liked to sell it.—The coroner (Mr. Morgan), in summing up, said he had held several inquests on children whose deaths had been caused by opiates. When a child was in good health a dose of cordial might be given it, when restless, without danger to life, but sometimes the restlessness, as in this instance, was caused by diarrhoea or some other disease, and in those cases, when the constitution was weakened, an opiate too often had a fatal effect. He was warranted, by high authority, in saying that the most mischievous consequences to the health of children arose from the use of opiates, and that thousands of deaths occurred annually from this cause. He could not too strongly caution parents against the use of these cordials without proper medical advice.—The jury found as their verdict, that "the deceased died from the effects of an overdose of sedative, administered when the deceased's constitution was weakened by previous continuous diarrhoea."

GOSSIP.

Mr. George Fendick, of High-street, Bristol, was elected surgeon of the Bristol Dispensary on the 31st ult.

The guardians of the parish of Birmingham are open to receive tenders for the supply of drysalteries for three months. Tenders opened September 22nd.

Classes for practical chemistry are about to be established in connection with the Potteries Mechanics' Institution at Hanley, and the Athenæum, Stoke. It is pleasing to find that persons are becoming alive to the importance of the application of practical chemistry to our local manufactures, more especially in a district like the Potteries.

GAZETTE.

PARTNERSHIPS DISSOLVED.

ALLINSON and BARRETT, King's Lynn, surgeons.
ALLWORK and STOVELL, Red-hill, chemists.
HAMILTON, BURGESS, and HAMILTON, Horatio, Poole, chemists.
HICKS and DIXEY, Baldock, surgeons.
KING and KING, Camberwell-road, surgeons.
LUCOMBE and KING, Snow-hill, drug merchants.
POWELL and PENNY, Widnes, chemical manufacturers.
VISE and VISE, Holbeach, Lincolnshire, surgeons.

BANKRUPTS.

CLARKE, EDWARD GRIFFITHS, Mole, medical licentiate.
COLLINGWOOD, WILLIAM, Maidstone, apothecary.
DOUGLAS, GEORGE BOYCE, Bolton, surgeon's assistant.
ORFORD, WILLIAM COCKERELL, Birmingham, surgeon.
REEVE, JOHN, Birmingham, druggist.
SMITH, WILLIAM, Hastings, chemist and druggist.
SPENCE, GEORGE, Manchester, drysalter.
TASSELL, THOMAS, Church-street, Deptford, chemist.
TETLEY, JOHN, Birstal, druggist.

DECLARATION OF DIVIDENDS.

HEPWORTH, W., Beeston, chemical manufacturer, 5s.
HOCKIN, J., West Cowes, Isle of Wight, chemist, 7s. 5½d.
JEWELL, T. W., Harwich, surgeon, 2s. 1½d.



CHEMICALS.

THE trade in chemicals has been quiet since the date of our last report. The present quotation for SODA CRYSTALS is £4 12s. 6d. ex ship, but the business lately done in this and other rough chemicals has been very limited. For ASH 1½d. per cent. per cwt. has been accepted. BICARBONATE remains at 11s. 6d. BLEACHING POWDER is only in retail demand, the price being 11s. ROLL BRIMSTONE has been much wanted for the hop districts and also for export, and as Rough has been scarce, makers have been able to obtain 10s. and even 10s. 3d. for this product. Some large orders have been executed for SULPHATE OF COPPER, which cannot be bought easily under 24s. SAL AMMONIAC has been very scarce, and quotations merely nominal, offers made at fair prices both for present and forward delivery having been refused. CITRIC ACID is quoted at 2s. 7½d., TARTARIC at 1s. 1½d. for best English. A good business has lately been done in ALUM at fair prices.

DRUGS.

The periodical auctions have been marked by no important alterations in prices, which have as a rule been firm. GUM BENJAMIN has realised advanced terms. KOWRIE, OPIUM, CARDAMOMS and ANISEED OIL have also risen in price.

OILS.

LINSEED being less scarce, is obtainable at £31 10s. on the spot, and business has been done for delivery, November-December, at £32. RAPE has been flat, and some sales of English brown on the spot have been made at £30 10s., but £31 is now demanded. £31 has been accepted for delivery during the last four months of this, and £32 for the first four months of next year. Refined is quoted at £32 10s. to £33, but Foreign being scarce, is held for £35. The transactions in COTTONSEED have been limited at £37 to £38 for Refined, and at £31 for Crude. OLIVE OILS have moved off slowly, small sales are reported at £61 Mogador, £64 Lisbon, and at £67 Malaga. The market for COCOANUT

has been steady, but not very active. Of PALM none has lately been offered by auction, but privately some business has been done in fine Lagos at £10. A few retail sales of Colonial have been effected at £90, American offers at £89. WHALE OIL is in small stock and firm at £35 to £36. Seal is in fair demand, and pale quoted £36. Cod is dull at £37 10s. to £38.

PETROLEUM.—Prices have been steady at 1s. 5½d. to 1s. 5½d. on the spot. For the last four months there are sellers at 1s. 6d. The week before last two cargoes, each of about 2500 barrels, sold at between 1s. 5d. to 1s. 5½d. for U. K. and Continent. A good business has been done in PETROLEUM SPIRIT for shipment.

Monthly Statement

Of the STOCKS, LANDINGS, and DELIVERIES of the following Goods at the PORT of LONDON, from Jan. 1 to Aug. 31, 1868 and 1867.

	Stock Aug. 31. 1968.	1867.	Landings. 1868.	1867.	Deliveries 1868.	1867.
Aloes cases	2475	3354	1628	3100	2373	3153
kegs	79	142	—	6	33	108
gourds	635	2092	—	2302	1118	1212
Aniseed, Star chests	558	455	450	136	196	253
Arrowroot chests	15940	13100	9214	9596	6010	5950
boxes and tins	21371	21146	11463	12403	9200	15596
Balsam casks, &c.	726	277	119	493	485	555
Bark, Medicinal, casks and cases	285	301	654	319	139	295
serons, &c.	7000	8928	11626	7430	13925	10927
Bark, Tanners tons	117	145	962	368	591	345
Borax packages	240	91	162	492	13	510
Beeswax bales and serons	419	184	430	195	268	88
casks and cases	812	1756	1127	3506	1720	3243
cakes	250	2183	2200	2245	3527	1897
Brimstone tons	—	490	—	—	—	—
Campbor packages	2031	3225	2740	3202	2514	2184
Cardamoms chests	221	240	386	306	255	329
Cochineal—						
Honduras serons	2330	3980	1461	5536	2546	3181
Mexican "	804	23	1227	177	1123	346
Tencriff "	4221	3020	10942	9412	11816	10645
Coculus Indicus bags, &c.	1023	959	331	280	348	125
Colombo root packages	1818	2500	89	1689	603	761
Cream of Tartar casks	110	209	155	288	253	570
Cubebs bags	1672	1307	504	272	115	700
Dragonsblood chests	97	56	103	26	103	80
Galls, E. I. casks and cases	2747	3884	1640	5931	5331	4598
Mediterranean sacks	15	70	31	51	86	55
Gum—						
Ammoniac packages	197	224	39	26	29	26
Animi and Copal "	1384	1738	2575	1865	2950	3703
Arabic, Barbary "	43	40	298	232	115	509
Turkey "	82	111	55	76	57	253
East India "	2245	1167	4920	3242	3701	3074
Assafetida "	84	72	181	4	192	185
Benjamin "	1114	819	1153	1071	915	1070
Dammar "	1014	1387	313	741	419	315
Galbaum "	1	—	6	3	11	2
Gamboge "	143	69	345	134	275	145
Guaicum "	97	76	107	114	94	97
Kino "	273	57	279	32	104	13
Kowrie tons	1332	1379	1259	1692	1161	1578
Mastic packages	204	253	2	164	31	115
Myrrh, E. I. "	54	36	209	37	172	62
Olibanum "	1852	1837	3290	4462	2688	4704
Sandarac "	256	233	603	769	506	679
Senegal tons	89	52	57	37	38	22
Tragacanth packages	28	15	16	3	26	4
Ipecacuanha casks and bags	130	135	249	263	246	264
Jalap bales	392	300	417	222	275	179
Lac-Dye chests	3247	3517	3430	2327	5765	8867
Nux Vomica packages	1097	1225	1679	2149	930	1774
Oil—						
Castor casks	169	83	92	17	6	37
cases	436	377	1170	1156	1161	1436
dippers and tins	1444	5230	14586	21454	34770	23040
Palm tons	1182	909	4575	5167	4044	4490
Cocoanut "	3358	4455	6835	5107	6763	7062
Olive casks, &c.	1021	1858	2782	4055	3436	4006
Aniseed casks	302	834	1087	436	1124	875
Cassia "	1741	1369	1126	396	870	998
Opium chests, &c.	42	191	—	—	no return	—
Rhubarb chests	1467	743	2336	1051	1476	1489
Safflower—						
Bengal bales	1098	1342	1704	2085	2291	2952
Bombay "	77	115	61	2	80	85
Saffron packages	10	10	2	—	1	—
Sarsaparilla bales	261	530	983	1401	1058	1819
Senna bales, &c.	2886	2581	2271	2802	2127	2928
Shellac chests, &c.	10481	12706	9774	3383	11449	11924
Sticklac "	2129	8751	637	832	1312	2168
Torra Japonica—						
Gambier tons	3376	2240	8520	5979	6026	5115
Cutch "	813	714	1662	924	1274	933
Turmeric "	368	424	324	713	755	754
Vermillion chests, &c.	67	115	35	158	40	103

Monthly Price Current.

[The prices quoted in the following list are those actually obtained in Mining-lane for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.]

CHEMICALS.

	1868. June.		1867. June.	
ACIDS—	s. d.	s. d.	s. d.	s. d.
Aceticper lb.	0 4	0 0	0 4	0 0
Arsenious (see Arsenic)				
Citricper lb.	2 7½	2 8	1 10½	0 0
Nitricper lb.	0 5	0 5½	0 5	0 5½
Oxalicper lb.	0 8	0 0	0 9	0 9½
Sulphuricper cwt	0 0½	0 1	0 0½	0 1
Tartaric crystal ..	1 1½	1 2	1 1½	1 2
powdered ..	1 2½	0 0	1 2½	1 3
ANTIMONY ore.....per ton	280 0	0 0	220 0	0 0
crude ..per cwt	23 0	0 0	22 0	23 0
regulus ..	43 0	0 0	34 0	0 0
star ..	42 0	0 0	34 0	35 0
ARSENIC, lump.....	16 0	16 6	16 0	16 6
powder.....	7 6	8 0	7 6	7 9
ASHES (see Salts).....				
BRIMSTONE, rough ..per ton	132 6	132 6	132 6	135 0
roll ..per cwt	10 0	10 8	10 3	10 6
flour.....	14 0	14 6	14 0	14 6
IODINE, dryper oz.	0 0½	0 10	0 9½	0 0½
IVORY BLACK, dry..per cwt.	0 0	0 0	8 0	0 0
MAGNESIA, calcined..per lb.	1 6	1 8	1 6	1 8
MERCURY.....per bottle	137 0	0 0	137 0	0 0
MINIUM, redper cwt.	21 0	0 0	21 6	22 0
orange ..	32 6	33 6	33 6	0 0
PRECIPITATE, red ..per lb.	2 0	0 0	2 6	0 0
white ..	2 5	0 0	2 5	0 0
PRUSSIAN BLUE	1 0	1 10	1 0	1 10
SALTS—				
Alumper ton	150 0	155 0	150 0	155 0
powder ..	170 0	175 0	170 0	175 0
Ammonia:				
Carbonateper lb.	0 5	0 5½	0 5	0 5½
Hydrochlorate, crude,				
white.....per ton	420 0	500 0	400 0	500 0
British (see Sal Ammoniac)				
Muriate (see Hydrochlorate)				
Sulphateper ton	300 0	316 0	240 0	245 0
Argol, Capeper cwt	65 0	75 0	07 6	95 0
France ..	45 0	00 0	43 0	70 0
Oporto, red ..	25 0	27 0	29 0	30 0
Sicily ..	45 0	50 0	50 0	55 0
Naples, white ..	60 0	65 0	60 0	70 0
Florance, white ..	70 0	75 0	75 0	80 0
red ..	60 0	65 0	65 0	70 0
Bologna, white ..	0 0	30 0	78 0	80 0
Ashes (see Potash and Soda)				
Bleaching powd..per cwt.	11 0	11 3	14 0	14 6
Borax, crude ..	25 0	40 0	52 6	62 6
(Tineal) ..	30 0	45 0	47 6	60 0
British refnd..	60 0	0 0	70 0	72 0
Calomelper lb.	2 5	0 0	2 5	0 0
Copper:				
Sulphateper cwt.	23 6	24 0	25 0	26 0
Copperas, green ..per ton	55 0	60 0	55 0	57 6
Corrosive Sublimate ..p.lb.	1 11	0 0	1 11	0 0
Cr. Tartar, French, p. cwt.	84 0	85 0	84 0	0 0
Veutian grey ..	07 6	70 0	75 0	0 0
brown ..	57 6	62 6	70 0	72 6
Epsom Saltsper cwt.	8 6	8 6	8 6	9 0
Glauber Salts	5 6	0 0	5 6	6 0
Lime:				
Acetate, white, per cwt.	13 0	21 6	10 0	18 0
Magnesia:				
Carbonate.....	42 0	0 0	42 6	45 0
Potash:				
Bicbromateper lb.	0 5	0 0	0 5	0 5½
Carbonate:				
Potashes, Canada, 1st				
sortper cwt.	32 6	0 6	32 6	0 0
Pearlashes, Canada, 1st				
sortper cwt.	33 0	33 6	45 0	0 0
Chlorateper lb.	1 1½	0 0	1 0	1 0½
Hydriodate (see Potassium, Iodide)				
Muriate (see Potassium, Chloride)				
Prussiateper lb.	1 0	1 0½	1 0½	1 0
red ..	1 0½	1 10	1 0½	1 10
Tartrate (see Argol and Cream of Tartar)				
Potassium:				
Chlorideper cwt.	8 3	8 6	8 0	8 6
Iodide.....per lb.	11 6	12 0	12 6	0 0
Quinine:				
Sulphate, British, in				
bottlesper cwt.	4 9	0 0	4 0	0 0
Sulphate, French ..	4 4	0 0	4 3	4 4
Sal Acetateper lb.	0 10½	0 0	1 0	0 0
Sal Ammoniac, Brit. cwt.	32 0	33 0	34 0	35 0
Saltpetre:				
Bengal, per cent. or				
underper cwt.	19 3	19 6	18 0	18 6
Bengal, over 6 per cent.				
per cwt.	18 9	10 0	17 0	17 6
Madras ..	17 6	18 6	8	17 6

	1868. s. d.		1867. s. d.	
Saltpetre, continued:—				
Bomb & Kurrachee p.ct.	0 0	0 0	14 0	16 0
European.....	0 0	0 0	21 6	22 0
British, refined ..	22 0	23 8	22 6	23 0
Soda:				
Bicarbonate....	11 6	0 0	15 0	15 6
Carbonate:				
Soda Ash.....per deg.	0 1½	0 2	0 2½	0 2½
Soda Crystals per ton.	92 6	0 0	112 0	0 0
Hyposulphite..per cwt.	22 0	0 0	12 0	0 0
Nitrate.....	13 3	13 9	11 0	13 0
SUGAR OF LEAD, White, cwt.	37 6	38 0	37 6	38 0
Brown ..	26 6	27 0	28 0	29 0
SULPHUR (see Brimstone)				
VERDIGRISper lb.	0 11	1 0	0 11	1 0
VERMILION, English..per lb.	2 6	3 0	2 9	3 2
China.....	3 0	0 0	2 5	2 6
DRUGS.				
ALDS, Hepatic...per cwt.	100 0	180 0	80 0	180 0
Socotrine ..	170 0	300 0	180 0	300 0
Cape, good..	20 0	30 0	80 0	33 0
Inferior ..	18 0	28 0	17 0	29 0
Barbadoes ..	70 0	205 0	80 0	200 0
AMBERGRIS, groy ...per oz.	32 0	35 0	35 0	40 0
BALSAMS—				
Canadaper lb.	1 4	0 0	1 4	1 5
Cajapi ..	1 8	1 8½	1 9	1 11
Peru ..	8 9	0 0	6 0	6 9
Tolu ..	2 6	0 0	2 2	2 3
BAKES—				
Canella albaper cwt.	30 0	38 0	32 0	33 0
Cascarilla.....	23 0	33 0	16 0	28 0
Peru, crown & grey per lb.	0 10	1 10	1 4	2 0
Calisaya, flat ..	2 6	2 8	2 6	2 9
quill ..	2 3	2 8	2 3	2 6
Carthagea ..	0 9	1 3	0 10	1 4
Pitayo ..	0 8	1 3	0 9	1 8
Red ..	1 6	6 0	2 6	12 0
Bucho Leaves ..	0 2½	0 9	0 2½	0 9
CAMPHOR, China..per cwt.	130 0	132 6	140 0	0 0
Japan ..	130 0	132 6	142 6	0 0
Refin Eng. per lb.	1 9	0 0	1 10½	1 11
CANTHARIDES	2 2	0 0	2 4	2 5
CHAMOMILE FLOWERS p. cwt.	45 0	80 0	50 0	05 0
CASTOREUMper lb.	5 0	32 0	1 0	20 0
DRAGON'S BLOOD, reed p. ct.	190 0	220 0	200 0	220 0
lump ..	100 0	220 0	90 0	280 0
FRUITS AND SEEDS (see also Seeds and Spices)				
Anise, China Star pr cwt.	85 0	90 0	120 0	0 0
German, &c.	36 0	41 0	30 0	42 0
Beans, Tonquin ..per lb.	1 2	1 6	1 0	1 9
Cardamoms, Malabar				
good ..	7 9	8 9	6 0	6 9
inferior ..	5 3	7 0	4 0	5 10
Madras ..	4 9	8 6	3 9	5 9
Ceylon ..	2 6	2 10	2 6	3 0
Corozo Nuts....per cwt.	12 0	19 0	10 0	16 6
Cassia Fistula..	20 0	30 0	20 0	32 0
Castor Seeds ..	10 0	12 0	10 0	12 0
Cocculus Indicus	30 0	35 6	30 0	35 6
Colocynth, apple..per lb.	0 6½	0 10	0 7	0 11
Croton Seeds ..per cwt.	70 0	105 0	100 0	125 0
Cubeba ..	40 0	45 0	50 0	52 0
Cumin.....	21 0	30 0	14 0	18 0
Dividivi ..	11 6	13 6	12 0	13 0
Fenugreek.....	11 0	12 0	16 0	0 0
Guinea Grains ..	45 0	46 0	56 0	58 0
Juniper Berries ..	9 0	10 0	8 6	10 0
Myrobalans	14 6	10 6	11 0	16 6
Nux Vomica.....	21 0	28 6	12 0	13 0
Tamarinds, East India	25 0	31 0	27 0	27 6
West India, new ..	25 0	35 0	21 0	27 0
Vanilla, largo ...per lb.	9 0	14 0	10 0	16 0
inferior ..	3 0	8 0	4 0	9 0
Wormseed ..per cwt.	1 6	0 0	5 6	6 0
GINGER, Preserved, in bond				
(duty 1d. per lb.) per lb.	0 8	0 10	1 0	1 1½
GUMS (see separate list)				
HONEY, Narbonne ..	0 0	0 0	50 0	70 0
Cuba ..	27 0	30 0	28 0	41 0
Jamaica ..	26 0	43 0	25 0	55 0
IPERACUANEA	7 6	0 0	9 6	0 0
Isinglass, Brazil ..	2 8	8 11	2 0	3 10
Tongue sort ..	3 0	4 0	3 0	4 2
East India ..	2 0	4 0	1 10	4 2
West India ..	3 5	3 0	8 8	4 0
Rusa, long staple ..	9 0	10 0	9 6	10 6
leaf ..	5 6	8 6	7 0	10 0
Simovia ..	1 6	2 6	1 9	2 6
JALAP, good	3 9	4 6	4 4	5 0
infer. & atoms ..	0 6	3 0	0 9	3 10
LEMON JUICE ...per degree	0 0½	0 0½	0 0½	0 0½
LIQUORICE, Spanish per cwt.	65 0	70 0	65 0	70 0
Italian ..	50 0	60 0	60 0	60 0
MANNA, flaky	3 0	3 6	3 0	4 3
small.....per lb.	1 6	1 9	1 16	2 0
MUSK.....per oz.	19 0	40 0	10 0	32 0
OILS (see also separate list)				
Almond, expressed per lb.	1 7	0 0	1 8	0 0
Castor, 1st pale ..	0 5½	0 6	0 7	0 9
second ..	0 5	0 5½	0 6½	0 6½
infer. & dark ..	0 4½	0 5	0 6½	0 6½
Bombay (in casks)	0 4½	0 0	0 5½	0 6
Cod Liverper gall.	4 6	5 3	3 6	5 9
Croton.....per oz.	1 2	1 6	1 2	1 6
Essential Oils:				
Almondper lb.	38 0	40 0	34 0	38 0

1863.				1867.				1863.				1867.			
Essential Oils, continued:—								Gums, continued:—							
s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Anise-seed	9 0	to	0 0	11 9	to	12 0	0 0	TRUS.	14 0	to	0 0	15 0	to	17 0	0 0
Bay	75 0	..	0 0	80 0	..	90 0	0 0	TRAOACANTH, leaf.	240 0	..	490 0	220 0	..	320 0	0 0
Bergamot	12 0	..	20 0	10 0	..	16 0	0 0	in sorts	160 0	..	220 0	80 0	..	205 0	0 0
Cajeput, (in bond) poroz.	0 1	..	0 2	0 2	..	0 2	0 2	OILS.							
Caraway	5 0	..	0 6	5 0	..	6 0	0 6	SEAL, pale	36 6	..	0 0	30 0	..	0 0	0 0
Cassia	5 0	..	6 0	6 6	..	6 8	0 8	yellow to tinged	31 10	..	34 10	35 0	..	37 0	0 0
Cinnamon	1 0	..	3 6	1 3	..	3 6	0 6	brown	31 0	..	0 0	33 0	..	34 0	0 0
Cinnamon-leaf	0 1	..	0 2	0 4	..	0 0	0 0	SPERM, body	89 0	..	90 0	103 0	..	105 0	0 0
Citronelle	0 2	..	0 2	0 2	..	0 0	0 0	headmatter	0 0	..	0 0	103 0	..	0 0	0 0
fine	0 2	..	0 0	0 4	..	0 0	0 0	COD	37 10	..	38 0	38 10	..	40 0	0 0
Clove	2 0	..	0 0	2 7	..	0 0	0 0	WHALE, South Sea, pale	35 0	..	36 0	38 10	..	40 0	0 0
Juniper	1 9	..	2 0	1 6	..	1 9	0 9	yellow	34 0	..	0 0	38 0	..	0 0	0 0
Lavender	2 9	..	3 0	2 9	..	3 9	0 9	brown	33 0	..	0 0	35 6	..	36 0	0 0
Lemon	3 0	..	7 0	5 0	..	0 0	0 5	East India, Fish	31 0	..	0 0	35 0	..	0 0	0 0
Lomongrass	0 4	..	0 5	0 4	..	0 5	0 5	OLIVE, Galipoli	68 0	..	0 0	63 0	..	0 0	0 0
Neroli	0 0	..	0 0	3 6	..	4 6	0 6	Trieste	67 0	..	0 0	65 19	..	0 0	0 0
Nutmeg	0 3	..	0 8	0 1	..	0 7	0 7	Levant	62 0	..	0 0	62 0	..	0 0	0 0
Orange	5 0	..	7 0	5 0	..	7 6	0 6	Mogador	60 10	..	61 0	62 0	..	0 0	0 0
Otto of Roses	16 0	..	20 0	17 0	..	21 0	0 0	Spanish	64 10	..	67 0	65 0	..	66 0	0 0
Peppermint:								Sicily	65 0	..	0 0	65 0	..	0 0	0 0
American	21 6	..	23 0	21 6	..	21 6	0 6	COCOANUT, Cochinn.	53 0	..	0 0	57 0	..	0 0	0 0
English	36 0	..	43 0	38 0	..	44 0	0 0	Ceylon	51 0	..	0 0	52 0	..	52 10	0 0
Rosemary	1 9	..	2 0	1 0	..	2 0	0 0	Sydney	45 0	..	50 0	44 0	..	51 0	0 0
Sassafras	3 0	..	4 0	3 0	..	3 3	0 3	GROUND NUT AND GINGELLY:							
Spearmint	12 0	..	24 0	16 0	..	25 0	0 0	Bombay	0 0	..	0 0	50 0	..	0 0	0 0
Thyme	1 10	..	4 0	2 0	..	4 0	0 0	Madras	40 0	..	41 0	54 0	..	55 0	0 0
Mace, expressed	0 0	..	0 2	0 6	..	0 7	0 7	PALM, fine	40 0	..	0 0	49 0	..	40 10	0 0
PERUM, Turkey	24 0	..	27 0	17 0	..	18 0	0 0	LINSEED	31 10	..	0 0	37 0	..	37 5	0 0
Egyptian	0 0	..	0 0	3 6	..	7 0	0 0	RAPESEED, English, pale	13 0	..	0 0	40 0	..	40 10	0 0
QUASSIA (bitter wood) per ton	125 0	..	0 0	110 0	..	120 0	0 0	brown	31 0	..	0 0	38 0	..	0 0	0 0
RHUBARB, China, good and								Foreign pale	35 0	..	35 10	42 0	..	0 0	0 0
fine	5 3	..	9 6	5 3	..	9 0	0 0	brown	31 10	..	0 0	38 10	..	39 0	0 0
Good, mid. to ord.	1 6	..	4 6	1 6	..	5 0	0 0	COTTONSEED	33 0	..	33 0	33 10	..	32 0	0 0
Dutch trimmed	10 0	..	12 0	10 0	..	12 0	0 0	LARD	64 0	..	65 0	57 0	..	0 0	0 0
Russian	9 0	..	10 0	9 0	..	10 0	0 0	TALLOW	37 0	..	0 0	36 0	..	33 0	0 0
ROOTS—								PETROLEUM, Crudo	11 10	..	0 0	11 10	..	0 0	0 0
Calumba	26 0	..	40 0	20 0	..	35 0	0 0	refined, per gall.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
China	30 0	..	35 0	20 0	..	30 0	0 0	Spirit	1 0	..	0 0	0 9	..	0 11	0 0
Galangal	16 0	..	19 0	13 0	..	14 0	0 0	SEEDS.							
Gentian	16 0	..	17 0	16 0	..	0 0	0 0	CANARY	78 0	..	84 0	52 0	..	53 0	0 0
Hellebore	22 0	..	30 0	26 0	..	32 0	0 0	CARAWAY, English per cwt.	0 0	..	0 0	0 0	..	0 0	0 0
Orris	36 0	..	42 0	34 0	..	35 0	0 0	German, &c.	36 0	..	42 0	40 0	..	44 0	0 0
Pellitory	58 0	..	60 0	53 0	..	60 0	0 0	CORIANDER	18 0	..	20 0	0 0	..	0 0	0 0
Pink	0 8	..	0 10	10 0	..	11 9	0 9	HEMP	42 0	..	44 0	42 0	..	44 0	0 0
Rhatany	0 6	..	0 10	0 7	..	1 0	0 0	LINSEED, English per qr.	65 0	..	72 0	0 0	..	0 0	0 0
Seneca	1 7	..	0 0	1 9	..	1 10	0 0	Black Sea & Azof	60 0	..	61 6	63 6	..	0 0	0 0
Snake	1 9	..	0 0	3 0	..	0 0	0 0	Calcutta	62 6	..	63 0	67 0	..	67 6	0 0
SAFFRON, Spanish	30 0	..	35 0	34 0	..	36 0	0 0	Bombay	64 0	..	64 6	69 0	..	0 0	0 0
SALEP	90 0	..	110 0	110 0	..	120 0	0 0	St. Petersburg	61 0	..	50 6	0 0	..	0 0	0 0
SARSAPARILLA, Lima per lb.	0 0	..	0 0	1 0	..	1 4	0 0	Mustard, brown	15 0	..	17 0	0 0	..	0 0	0 0
Paris	0 0	..	0 0	0 11	..	1 1	0 0	white	10 0	..	12 0	0 0	..	0 0	0 0
Honduras	0 10	..	1 4	0 10	..	1 4	0 0	Poppy, East India per qr.	57 0	..	55 0	0 0	..	0 0	0 0
Jamaica	1 0	..	2 0	1 0	..	2 1	0 0	SPICES.							
SASSAFRAS	10 0	..	0 0	3 0	..	9 0	0 0	CASSIA LIGNEA	120 0	..	129 0	103 0	..	111 0	0 0
SCAMMONY, Virgin	28 0	..	35 0	30 0	..	40 0	0 0	Vera	60 0	..	84 0	42 0	..	02 0	0 0
second & ordinary	11 0	..	23 0	12 0	..	23 0	0 0	Buds	140 0	..	155 0	130 0	..	150 0	0 0
SENA, Bombay	0 3	..	0 5	0 2	..	0 4	0 0	CINNAMON, Ceylon,							
Tinnivelly	0 2	..	0 10	0 2	..	0 9	0 0	1st quality	1 11	..	2 8	2 0	..	2 11	0 0
Alexandria	0 5	..	0 11	0 5	..	0 0	0 0	2nd do.	1 3	..	2 6	1 7	..	2 8	0 0
SERMACETI, refined	1 6	..	0 0	1 2	..	0 0	0 0	3rd do.	1 4	..	2 3	1 4	..	2 3	0 0
American	1 5	..	0 0	1 1	..	0 0	0 0	Tellieberry	1 9	..	2 2	1 7	..	1 11	0 0
SQUILL	0 1	..	0 2	1 2	..	0 3	0 0	CLOVES, Penang	0 9	..	0 10	0 11	..	1 1	0 0
GUMS.								Ambayna	0 4	..	0 5	0 5	..	0 0	0 0
AMMONIAC, drop	200 0	..	200 0	180 0	..	220 0	0 0	Zanzibar	0 3	..	0 4	0 3	..	0 3	0 0
lump	140 0	..	180 0	100 0	..	170 0	0 0	GINGER, Jam, fine per cwt.	90 0	..	150 0	120 0	..	180 0	0 0
ANIMI, fine washed	210 0	..	230 0	210 0	..	220 0	0 0	Ord to good	36 0	..	80 0	42 0	..	110 0	0 0
bold scraped	190 0	..	215 0	150 0	..	200 0	0 0	African	27 6	..	29 0	28 0	..	29 0	0 0
sorts	105	..	135 0	100 0	..	147 0	0 0	Bengal	26 0	..	28 0	27 0	..	27 6	0 0
dark	70 0	..	100 0	72 0	..	100 0	0 0	Malabar	30 0	..	33 0	28 0	..	0 0	0 0
ARABIC, E. I., fine								Cochin	42 0	..	116 0	58 0	..	120 0	0 0
pale picked	80 0	..	85 0	81 0	..	88 0	0 0	PEPPER, Blk, Malabar, per lb.	0 4	..	0 5	0 4	..	0 4	0 0
sorts, gd. to fin	55 0	..	75 0	73 0	..	84 0	0 0	White, Tellicberry	0 9	..	1 9	0 9	..	1 6	0 0
garblings	40 0	..	50 0	62 0	..	70 0	0 0	Cayenne	0 4	..	0 9	0 4	..	0 9	0 0
TURKEY, pick. gd to fin.	170 0	..	210 0	190 0	..	225 0	0 0	VARIOUS PRODUCTS.							
second & inf.	85 0	..	160 0	85 0	..	170 0	0 0	COCHINEAL—							
in sorts	08 0	..	84 0	65 0	..	83 0	0 0	Honduras, black	3 2	..	4 5	3 3	..	4 2	0 0
Gedda	47 0	..	57 0	62 0	..	65 0	0 0	silver	3 0	..	3 9	3 4	..	4 0	0 0
BARBARY, white	70 0	..	80 0	82 6	..										